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THE
LONDON
MEDICAL REPOSITORY,
MONTHLY JOURNAL
AND
REVIEW.

BY
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Quærere Verum. HORACE.

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FROM JANUARY TO JUNE, 1817.

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No. 37. JANUARY 1, 1817. Vol. VII.

RETROSPECT

OF THE

PROGRESS OF MEDICAL SCIENCE,

From July 1816, *to January* 1817.

> Angusta quidem est scientia humana: ad causas rerum certas et necessarias rarissime penetrat. Neque arti nostræ tanta adhuc usque lux affulsit, quin natura multorum morborum, eorumque causæ, tam proximæ quam remotiores, vel prorsus lateant, vel saltem non plene deprehendantur.
>
> GREGORY, DISS. DE MORBIS CŒLI MUTATIONE MEDENDIS.

> De modis assequendi ardua inquisitio; eoque magis, quod sit ex opinionibus falsis et preconiis vanis depravata. BACON, HIST. VITÆ ET MORTIS.

IF such be the difficulties connected with the investigation of the phenomena of life, such the obstacles which oppose the attainment of truth in Medical Science, who is there can exclaim—I have learnt enough; and, in closing the volume of instruction, can proceed in the practice of his profession with a satisfied conscience, an approving mind, and a reasonable expectation of possessing that confidence and those honours which are the legitimate right of the assiduous, inquiring, and scientific practitioner? Nevertheless, how narrow are the boundaries within which medical education is too generally confined; as if the knowledge of diseases were intuitive, or as if the skill of the physician consisted merely in writing a prescription, and that of the surgeon in the mechanical application of his instruments. It is indeed melancholy to observe, how eagerly the majority of pupils, in all the schools of medicine, endeavour merely to ascertain what particular branches of study are absolutely requisite for enabling them to meet those ordeals that must be passed before they can be entitled to a licence to practise; how small the number of those who regard their profession as a science; and how numerous, on the other hand, those who view it as little better than a trade, a mean of acquiring a respectable livelihood, or of amassing a fortune. Youth, in general, too soon aspire to act the part of men; and in our profession it is not until as the settled practitioner, amid the whirl of occupation, that he becomes fully sensible of the deficiency of his fundamental principles, and the impossibility of erecting upon them a solid superstructure. He would now willingly retrace his steps:

> O mihi præteritos referat si Jupiter annos!

but the time is passed; the opportunities are lost: and although some, by the force of natural talent, uncommon industry, and assiduous application, surmount the consequences of early defects of education; yet how many sink into little better than routiniers, gaining no individual respect, and throwing a shade of discredit over an honourable profession.

We have been induced to make these remarks, as prefatory to our *Retrospect*, with the view of stimulating the student to embrace in his plan of study a few of the collateral sciences*; and diverting his attention from the facility of acquiring the rights of a practitioner, to the difficulty of supporting that character with respectability and honour. We apprehend that all the examinations are still too superficial. A just severity in these would not, we are persuaded, diminish the number of qualified candidates; for the opposite course does not so much tend to increase them, as it fosters the indolence of the student; and even should there be a decrease in number, still the public will not suffer; as it is an undeniable fact, that, at this moment, the profession is overstocked. As to the supply required for the Army and Navy, we have already had demonstrative proof that, like every other commodity, the increase is always in the direet ratio of the demand*: and hence we ardently hope that, in the event of the College of Surgeons obtaining the sanction of the Legislature to that Bill which it is about to bring before Parliament, surgery at least will be fenced against the intrusion of the ignorant and the half-instructed: and so far, whilst the night of oblivion overshadows the past†, we may not be disappointed in our favourable anticipations of the future.

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* No precept can be more strongly impressed upon the mind of the student, than the truth, that any particular branch of knowledge can be perfectly acquired by him only whose mind is strengthened and expanded by an acquaintance with many other branches: and in thus stating our opinion, we will take this opportunity of answering the queries of our Correspondent, *Philo Botanicus*, by observing, that we understand the botanical information which the Court of Examiners mean to exact from those who present themselves before it, is merely a knowledge of the indigenous plants mentioned in the Pharmacopœia, and of those which possess poisonous properties. This is all which is regarded as absolutely useful to the practitioner: but we consider it as a very slender acquisition indeed, even in this branch of science. Too much importance is given to practical matters, as far as the student is concerned: for although we allow that the end and the object, undoubtedly, of all our studies is the practice of our profession, yet, the business of the student is with elementary principles; and the more his mind is stored with these, both direct and collateral, the more capable will he be, as a practitioner, of reasoning on and generalizing those facts which practice is every day presenting to his observation.

With regard to the more particular object of our Retrospect, we have to observe that, although there is little to notice on some of the subjects, yet much has been done upon the whole for the actual promotion of Medical Science within the time which it embraces: and as it is our duty, so we will endeavour to present our readers with at least a faithful abstract of what has been effected; classing the subjects as we have hitherto done, under the various heads to which they belong, or have an affinity.

ANATOMY, PHYSIOLOGY, AND PATHOLOGY.

ON the subject of *Human Anatomy* nothing has been published in this country within the period which our present Retrospect includes; and we believe little more has been done in this important branch of medical science on the Continent. We may notice, however, that Dr. E. T. Moreau of Auxonne, in an inaugural essay on the Membrana decidua, has questioned the accuracy of Dr. W. Hunter's description of this uterine formation and its perforations‡. He maintains, supporting his opinion by dissection, that, although it has an infinity of small perforations, passing obliquely from one surface to the other; yet the three openings particularly described by Hunter cannot be demonstrated*. It may be thought that, as all writers agree as to the uses of this membrane, differences regarding its anatomical structure are unimportant; but we conceive accuracy in anatomy to be no less requisite than in geometry, as it is impossible to foresee the important inferences that may be drawn from the slightest variations of structure.

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* At the commencement of the French revolutionary war, many of the young men who were hurried from their studies to join the forces, were certainly, in too many instances, very inadequately qualified to perform the duties of the stations they were destined to fill: but various circumstances connected with medical education which have since occurred, and are likely to remain permanent, will prevent this from ever again being the case.

† One of the main arguments on which the Dublin College of Surgeons intend to ground their opposition to the projected Bill of the London College, is the insufficiency of the examinations.

‡ Vide *Anatomia Uteri Humani gravida, Tab. illust*: Gul. Hunter.

As some compensation for the want of any addition to our knowledge of the healthy structure of the body, it is gratifying to observe the avidity with which practitioners seize every opportunity of adding to our knowledge, of the changes which disease produces on the organs. The pages of the *Repository* alone afford ample proof of the truth of this observation†. M. Beclard and Cloquet have described a singular instance of malformation of the large vessels entering the heart, which they observed in the dissection of a criminal twenty-six years of age. The superior vena cava consisted of two very distinct trunks, opening separately at the distance of more than an inch from each other, into the cavity of the right auricle. The smallest of these trunks, which occupied the usual place of the vena cava, and opened into the upper part of the right auricle, received only the right subclavian and corresponding external and internal jugular veins; whilst the other, which had an eccentric direction, being first horizontal, then vertical where it crossed before the arch of the aorta, and again horizontal before it entered the auricle, which it did on the left part of it, received the left subclavian vein and jugulars of the same side, the inferior thyroideal, the left intercostal, and some other branches. The cardiac veins also opened by three distinct orifices destitute of valves, into the horizontal portion of the second trunk behind the left auricle‡.

In many instances, abscesses have been found in the spleen, sometimes containing hydatids. The parietes of these abscesses have been often of a cartilaginous consistence; but we know of no instance on record in which they were completely ossified. A case of this description, however, has lately occurred, in which the abscess contained purulent matter, and the sides were ossified, presenting nearly the appearance and size of the head of a fœtus of seven months[*].

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* M. Moreau's words are, "elle n'offre pas les trois ouvertures décrites par *Hunter*, qui, selon cet anatomiste, doivent répondre aux orifices internes des trompes et du col de l'uterus." Vide *Essai sur la Disposition de la Membrane Caduque, &c.* 4to. p. 13.

† Vide *Repository*, vol. vi. pages 51, 174, 275, 331, 333, 350, 371, 379, 475, 480, and 534.

‡ Vide *Bulletin de la Faculté de Medecine de Paris.*

Mr. Howship has extended his microscopic observations to "the structure and organization of bone when it has attained its full growth, with a view to determine more accurately the nature and operation of those powers by which the condition of bone is changed when under the influence of disease[†]." For the purposes of this inquiry, the more solid sides of the cylindrical bones were selected. A transverse section of the humerus of a man displayed the appearance of the transverse sections of numerous canals, passing longitudinally, encrusted, or filled, according to their size, "with an opake whitish-coloured matter, of the consistence of spermaceti." On examining these canals in the humerus of an ox, it was found, "that whatever was the size of the canal, the diameter of its vessels was in proportion, and bore a very small part in comparison with the medullary secretion with which the canal was filled." The examination of longitudinal sections of the bone demonstrated that the canals were larger the nearer they were to the medullary cavity[‡]; but their points of communications "were not less numerous externally than internally." The mean diameter of the canals is stated to be "about the $\frac{1}{200}$ of an inch; but they varied from the $\frac{1}{100}$ to the $\frac{1}{400}$ of an inch. The conclusions to be drawn from Mr. Howship's observations are, that the solid parts of adult bones contain longitudinal canals which are not destined merely to transmit vessels, but to contain also medullary secretions. "The very smallest as well as the largest of the canals, appear to me," Mr. Howship remarks, "to be furnished with a membrane lining its cavity, which membrane conveys the vessels that deposit the medullary contents of these tubes, in the same way that the fine membranous capsules within the general medullary cavity furnish the marrow contained within the bone." By this structure it is evident, that the circulation through bone is as free as in the other parts of the body; and the inflammatory action as readily taken on by these vessels as by those in other parts.

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[*] This case occurred in the practice of Mr. Duncan, a young surgeon of rising merit; and, we believe, the details of the case have been given to the Medico-Chirurgical Society.

[†] *Medico-Chirurgical Transactions*, vol. vii. p. 387. This paper, like the former, is illustrated by several well-executed coloured microscopic figures. The accuracy of Mr. Howship's drawings having been doubted, he has brought forward in their favour the testimony of Mr. F. Bauer, "whose researches with the microscope," as Mr. Howship remarks, "are well known and highly appreciated by the scientific world." Mr. Bauer observes, in a letter on the subject, "I found them in every particular *true* and *correct*." —By some unaccountable neglect, the figures and letters of reference have been omitted in the plate, which renders it difficult to understand the explanations that accompany it.

[‡] By this term our author implies the space filled by the marrow; or occupied by a finely reticulated ossific structure, the interstices of which are charged with soft medullary matter, deposited in membranous bags.

In some measure allied to the subject of Mr. Howship's labours, are the investigations of Mr. Stanley* into the condition of the bones in rickets, both in their soft or diseased state, and after their restoration to a healthy compactness of structure. In the first state Mr. Stanley found them, as described by Léveillé* and Bichat†, light, easily cut, without any solid walls, and presenting throughout a cellular and spongy texture; but he did not find the periosteum thickened as mentioned by Bichat. In some of the cells he found a brownish gelatinous substance. In the restored bone, the deposition of the phosphate of lime, and consequently the compactness of the bone, was in the "exact relation to the circumstances of each case;" or where the greatest strength was required to prevent its further yielding. Thus in a cylindrical curved femur, the thickness and solidity of the walls is greater in the line of the interior curve; or the deposition is such as to render the bone in the centre perfectly solid, whilst in both cases the bony fibres are "arranged obliquely across the axis of the bone, in a direction evidently calculated to augment its strength and power of resistance." In the original construction of the healthy femur, the deposition of the phosphate is regulated by the same law, the thickness being greatest on the concave side corresponding to the situation of the linea aspera to prevent the increase of the natural curvature of the bone. The drawings intended to illustrate this paper appear to be accurate, and are very neatly executed§.

If it be admitted that no correct knowledge of physiology can be attained without an acquaintance with the general structure of the animal organs, the importance of comparative anatomy in enabling us to view these under every modification must be very obvious. Little information can be attained; indeed our conclusions would often be erroneous, were our investigations confined to the human body, or even to the bodies of the more perfect animals. The direction, therefore, of the student to the study of Comparative Anatomy by the lectures delivered at the Royal College of Surgeons, is likely to awaken an ardour for physiology, a part of medical science which is like a new creation, only merging from the chaos in which it has in a great degree so unaccountably been allowed to remain. To the forwarding of this desirable event, no little impulse has been given by the publication of Mr. Lawrence's *Introductory Lectures**.

---

* Vide *Medico-Chirurgical Transactions,* vol. vi. p. 404.

† *Memoires de Physiologie et de Chirurgerie pratique par Scarpa et Léveillé.*

‡ *Anatomie Générale,* tome iii.

§ If, however, a more particular explanation was requisite for understanding them, it could be of no use, as the plate contains no figures of reference.

In the first of these, the Lecturer advances some excellent observations on the importance of the study of comparative anatomy, giving a brief sketch of its rise and progress, and enumerating and eulogizing those who have chiefly contributed to its advancement among the antients, and also among the moderns, both on the Continent and in England, in a strain of chaste and energetic eloquence†. He then, in a succinct history of the labours of each of the celebrated men who have cultivated this branch of anatomy, points out those circumstances which are most worthy of attention, and best fitted to direct the student in the prosecution of his task, and lead him to the proper sources of information, as far as books can be regarded as such; at the same time urging him to the study of the volume of Nature, which cannot be resorted to without affording both knowledge and gratification. The plan of lectures which Mr. Lawrence has adopted, is well calculated to effect the object they have in view. He first endeavours to give a general notion of the structure and functions of animals, that the pupil "may form some idea of the diversities which the organs exhibit in the various classes," following this "by a review of the animal kingdom, according to the divisions generally used by naturalists;" and then proceeds, "in the last place, to consider the particular organs and functions, tracing each through all the classes*."

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* *An Introduction to Comparative Anatomy and Physiology, being two Introductory Lectures delivered at the Royal College of Surgeons on the 21st and 25th of March* 1816. By W. Lawrence, F.R.S. &c. London, 1816.

† Of the numerous eulogies which have been delivered on John Hunter, few appears to us more neatly executed, than that attempted by Mr. Lawrence; and nothing could be more happily conceived than the following allusion:

"The bust of Hunter could not have been more appropriately placed, than in the collection which is the pride and boast of this College, and universally allowed to be unrivalled for the number, beauty, and value of its specimens. The surrounding labour of his own hands forms the most suitable memorial of that great man: were an inscription required to characterise him, I would borrow the short but expressive one from the tomb of a great artist, placed in one of the principal works;

"Si monumentum quæras, circumspice."

In the second lecture Mr. Lawrence points out the intimate connection between *Anatomy and Physiology;* and enters upon the inquiry, "what we are to understand by an animal, and what idea we are to attach to life;" but before commencing his inquiry, he properly cautions his pupils against vague and indefinite expressions as "the bane of all science, and which have been remarkably injurious in the different departments of our own." He regards organization as endowed with sensibility and irritability, the chief characteristics of an animal; and life as the assemblage of all the functions, and the general result of their exercise: or, "organization the instrument, vital properties the acting power, function the mode of action, and life the result." In order, however, to have a correct notion of the term life, "it is necessary to consider living bodies in their various relations with the rest of nature; and to contrast them carefully with inert substances." In inorganic bodies each part, however small, has the same properties as the entire mass of the body, a grain of marble being the same as the mountain; but "a living body on the contrary derives its character from the assemblage of all the parts." Inorganic bodies again may be either homogeneous or heterogeneous, and may present a perfectly solid, fluid, or gaseous mass, according to the circumstances under which the aggregation has taken place, whilst all living bodies exhibit both solid and fluid parts, and are necessarily heterogeneous, or composed of dissimilar particles; and have always a permanent form characteristic of the species, which is not the case in inert bodies; even when "they are chrystallized." In organic bodies, the component atoms are all independent of each other; but "the particles which make up a living body are dependent on each other, and all subject to the influence of the same common animating cause." Such is the view which Mr. Lawrence takes of organized bodies, "in respect to their composition;" but it is from viewing them in a state of activity, in a state of constant change, in performing the functions of secretion, excretion, and assimilation, "that the most impressive notions of life are derived."

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* We cannot avoid quoting the following passage from the conclusion of the first lecture, for the sake of the junior part of our readers. "I have endeavoured to shew you," says Mr. Lawrence, "that the subject of these lectures, as laying the ground work of general physiology, is essentially interwoven with the very fundamental studies of our profession; and consequently that it has the strongest claim on the attention of every liberal man who makes the healing art an object of scientific investigation."—p. 112.

The presence of life preserves bodies endowed with it against the chemical actions and affinities which instantly exert their influence when it is withdrawn; and so essential a feature is this in our notion of vitality, that Stahl was led to define it, putredini contrarium: this, however, Mr. Lawrence justly conceives is taking too limited a view of the subject. Another peculiarity characteristic of vitality is the preservation and regulation of temperature, independent of external circumstances; the human body in particular having the power of preserving nearly the same heat within the arctic circle* and under the equator†; and it has even borne for a short space of time, without being much incommoded, a heat 58° above that of boiling water‡. We may here remark, however, that it is perhaps going too far to regard this as an invariable attribute of life, for a caterpillar is frozen and becomes apparently dead in a temperature of 28° (Faht.); and yet, when again thawed, recovers all the functions connected with its vitality.. The conversion of other matters into their own substance, whilst they are constantly throwing off much of the old matter, so as to lose on one part what they gain on the other, without altering their identity, is another striking feature of living bodies. "In all these points," continues Mr. Lawrence, "there is a strong contrast in inorganic bodies; they are exposed to the action of all surrounding media: instead of exhibiting a constant motion, they can only remain unchanged in a state of rest; for when any motion of the particles is excited, the body loses its form and consistence if the agent be mechanical; its very nature if it be chemical:" their increase in volume also is unlimited, dependant on accidental circumstances, and effected simply by juxtaposition.

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* Mr. Lawrence has detailed in his paper several of the experiments and observations by which these facts are supported. The elder Gmelin sustained the greatest natural cold which has been ascertained by thermometrical measurement, in January 1735, at Jeniseik, in 58° north latitude. *Flora Sibirica, pref.* The mercury fell to 126°, and our countrymen experienced a degree of cold which froze brandy in rooms where they had fires, on the Churchhill river in Hudson's Bay.—*Phil. Trans.* No. 465. p. 157.

† Humboldt experienced a heat from 110° to 115° in the Llanos or Desserts near the Orinoco, in South America.—*Tableau Physiqué des Regions Equatoriales.* Bruce observed the thermometer in the shade at 114° in Sennaar, and 119° at Chendi; Browne, at 116°.—*Travels in Syria and Egypt.* In the cabin of a vessel off the coast of Africa, Adanson saw it at 133°, which is the greatest heat observed in the shade.—*Histoire Naturelle du Senegal,* p. 81.

‡ Messrs. Duhamel and Fillet, being employed in 1760 and 1761 in researches concerning the destruction of grain by an insect, found that the girls attending the ovens could bear a heat of 115° R. = 258¼° F. or 120° R. = 270° F. for fourteen or fifteen minutes; that they could stay ten minutes at the height of 130° R. = 292¼° F., and that when it reaches 140° R. = 315° F. they cannot support it more than five minutes. Some uncertainty may perhaps be allowed in stating of these numbers, as alcohol thermometers were employed, which expand irregularly in very high temperatures; but meat and fruit were baking by the side of the girls who underwent these experiments.—*Mem. Acad. Royales des Sciences,* 1764. The experiments and observations in a heated room, by Sir Charles Blagden, M.D., recorded in the *Phil. Trans.* 1775, Pt. i. art. 12., are well known.

The investigation of the origin of vitality, the manner in which it is produced, and is communicated to the beings in which we find it, Mr. Lawrence acknowledges to afford but little satisfaction. Physiologists have never yet "been able to catch Nature in the fact of communicating life" in the earliest period of the fœtus; which is seen to possess it at its first developement; and all they know is, that "life proceeds from life; and there exists no other but that which has been transmitted from one living body to another by an uninterrupted succession." These circumstances, and the fact also that no connection can be traced between the particular textures of organs and their vital powers, and that the observation of the animal structures could never have led to the formation of any idea of their functions, necessarily confine our labours on the organic œconomy merely to its history. In pursuing this object, Mr. Lawrence condemns the application of physical science to physiology, and ascribes to Haller the merit of placing it "on its proper basis as a peculiar and independent science," by dissection and researches, "in living animals, on all parts of their vital œconomy." John Hunter more successfully followed in the same path, and attempted to explain life "by a patient examination of the fabric, and a close observation of the actions of living creatures;" surveying the whole system, "from plants to man:" and it is only by choosing such a path, however difficult and tedious, that "we can arrive at a knowledge of vitality," or lay the foundation of a general theory of life. Mr. Lawrence justly satirizes the attempts which have been made to explain what the actual principle of life is, by comparing it to magnetism, to electricity, and to galvanism; or considering it, as has actually been done, to be nothing else than oxygen. He ridicules altogether the hypothesis "of a subtle invisible matter, animating the visible textures of animal bodies, and directing their motions," as an example "of that propensity in the human mind, which has led men at all times to account for those phenomena, of which the causes are not obvious, by the mysterious aid of higher and imaginary beings."

No part of the animal structure has been more investigated than that of the eye; but in none perhaps, at least in a physiological point of view, has the investigation been productive of so little satisfaction. Some optical observations of Dr. Brewster, however, has thrown new light upon the formation of this organ in fishes and quadrupeds*; and led to the probable conjecture, that the structure of the lens in fishes is not symmetrical, but consists of a number of coats of different densities; although the entire lens has, nevertheless, a distinct relation to that diameter of the sphere which is the axis of vision. These variations of density, also, are not related to the centre of the crystalline, but to the diameter which forms the centre of vision; a form of structure which Dr. Brewster regards as being probably necessary for correcting spherical aberration.

The manner in which lizards were enabled to run along the ceilings of rooms, was suspected to depend on a structure of the foot, by which it could act as an exhausting syringe, or a sucker; and this idea was in a great measure confirmed by an anatomical examination of the feet of the Lacerta *gecko* by Sir Everard Home†. This indefatigable Anatomist has extended his researches to the feet of insects, and illustrated his observations by microscopic drawings of the apparatus he describes, from the chaste and correct pencil of Mr. Bauer‡. He corrects his former remarks on the Lacerta *gecko;* and observes, that what appears a pectinated edge consists of a complex structure, composed of rows of a beautiful fringe, which are applied to the surface on which the animal walks against gravity, while the pockets themselves are pulled up by the muscles attached to them, so as to form the cavities into suckers." In the blue-bottle fly, Musca *vomitoria*, the suckers, which are beautifully serrated at the edge, and granulated beneath, are two in number on each toe, and fixed to the last joint by a narrow moveable neck under the claw. These suckers, when not applied, are confined within the space between the two claws; but when the animal walks against gravity, they separate from each other, and the membrane of each is expanded, so as to increase the surface. In the horse fly, *Tabanus* of Fabricius, there are three of these suckers on each toe: but in the yellow saw fly, Cimbex *lutia* (Fabr.), there is a spoon-shaped sucker upon the under surface of each of the four first joints of all the toes. In the great water beetle, Dytiscus *marginalis*, the female has no suckers on the under side of the feet; but they are found " on the three first joints of the first and second pair of feet of the male; from which Sir Everard conjectures that they are used to retain the female in the embrace of the male. All these suckers are supplied with muscles, which are under the influence of the will of the animal. In the Grylli and Locusta there is also a peculiar apparatus, consisting of globular elastic cushions, for the purpose of taking off the jar when the animal alights after a leap: yet the flea, which has the power of jumping not exceeded by any other insect, has no such apparatus.

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* Vide *Phil. Trans.* 1816, Part ii. p. 34; and *Repository,* vol. vi. p. 166.

† Vide *Phil. Trans.* 1816. Pt. i. p. 146, *Repository,* vol. v. p. 350.

‡ Vide *Phil. Trans.* 1816, Pt. ii. p. 322; and *Repository,* vol. v. p. 353.

In the common earth-worm, Lumbricus *terrestris*, the circulation is carried on by the blood-vessels alone; but in the Lumbricus *marinus* Sir Everard Home has discovered that there is a heart of one ventricle, very small, and situated in the back of the animal, which sends an artery towards the tail. It communicates with a vein that transmits the blood to the bronchiæ, where it is aerated, and returned again to the heart*.

In passing from the consideration of the anatomy of the animal organs to that of their functions, the first general *Physiological* fact we have to notice, is, the support which the opinion is daily obtaining that the evolution and regulation of animal heat is influenced rather by nervous energy than by any chemical change which the blood undergoes in the round of circulation. In addition to the ingenious experiments of Mr. Brodie, it has lately obtained considerable support from the publication of some cases and pathological observations by Mr. Henry Earle†.

The opinions of physiologists regarding the nature of muscular contraction, are by no means yet accordant; and some new suggestions on the subject which Dr. Gordon has communicated to the Royal Society of Edinburgh, are not much calculated to settle them. From observing the muscles of living bodies during surgical operations, he conceives he is authorized in concluding, that the muscular fibre, during its contraction, does not exhibit the slightest appearance of rugæ, but remains perfectly straight, and does not undergo any perceptible en-

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[*] *Annals of Philosophy*, vol. viii. p. 454

[†] *Medico-Chirurg. Trans.* vol. vii. Part i.

largement in its transverse diameter. We are not prepared to deny this statement, and shall reserve our opinion until we hear his explanation of muscular contraction, on this principle.

Nothing more singular in any branch of Medical Science has occurred since our last Retrospect, considering we live in the nineteenth century, than the bold yet futile effort to controvert the Harveian doctrines of the circulation, by Dr. Kerr*. The unsuccessful result of any attempt by mere force of ancient authorities and metaphysical reasoning, to set aside the conviction which the actual experiments of so close an observer and faithful recorder of the phenomena of Nature, as Harvey was, had universally produced, might readily have been anticipated. That we have not unwarrantably decided on its fate, we refer our readers if they require any proof, to the analysis of the work which we laid before them†. But although Harvey's doctrines must be regarded as being as firmly established as any fact in philosophy, yet it is by no means surprising, that much diversity of opinion should exist regarding the mode by which the blood is projected through the whole course of the vascular system. On this subject we need not remind our readers, that Dr. Parry, a very strict examiner of facts, had advanced the position, that in ordinary states of the system, there is neither dilatation nor contraction in the arteries corresponding with the systole and diastole of the ventricle; and that the fluid, propelled by each contraction of the ventricle, must continue to move for a certain time after the propelling power has ceased to act. Some objections however having been urged by the editors of a contemporary journal‡, produced a letter from Dr. Parry, to which Dr. James Johnson has replied; and, in admitting that Dr. Parry's first position is established, this author has brought forward such an ingenious elucidation of the whole subject, as to require our particular notice.

With the view of simplifying his reasonings, and rendering them more convinced, Dr. Johnson invented an apparatus which resembles the circulation of a single heart§. In this, two bladders, communicating with each other, represented the auricle and ventricle; while the fluid to be circulated by them passed through a circular tube of equal diameter, proceeding from one and terminating in the other. In the first experiment, which consisted in compressing and dilating these alternately, so as to imitate the action of the heart, on the first contraction of the ventricle, every drop of fluid in the whole circle of the tube was in simultaneous motion; but on compressing the auricle after it was filled by the contraction of the ventricle, every drop became fixed "as if set in adamant," until the ventricle bladder was filled, and again compressed. At each systole of the ventricle bladder, "a vibratory motion, which gave to the finger a distinct sensation of a pulse, was perceived along the circling tube, but no dilatation nor contraction," unless the auricle was checked in its filling, when a dilatation of the tube was visible. This experiment Dr. Johnson considers sufficient to confirm Dr. Parry's first position; but, it overturns his second regarding the continued motion of the fluid after the impelling power has ceased to act, "just as the arrow continues to fly after it has left the bow;" for the whole is quiescent during the filling of the ventricle by the auricular contraction. Hence, says Dr. Johnson, the truth of the position, that "it is absolutely impossible that a fluid can continue to flow through a tube while there is no fluid entering that tube, nor contraction of the tube itself taking place, which must be the case during the diastole of the ventricle, if the arteries remain the same." That a state of alternate quiescence in the circle of vessels therefore takes place, Dr. Johnson conceives incontrovertibly proved; for if this were not the case, under the existing circumstances, the quantity must diminish in one part of the circle, and accumulate in the other. Upon the whole it must be allowed, that as far as the apparatus can be regarded as a fair representation of the circulation, Dr. Johnson has made good his point; but we, in our admiration of his ingenuity, ought not to banish from our minds the fact, that any analogical proof of this nature must always in some degree be regarded as fallacious, since the functions connected

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* *Observations on the Harveian Doctrine of the Circulation of the Blood.* By George Kerr, 12mo. London, 1816.

† Vide *Repository,* vol vi. p. 132.

‡ *Medico-Chirurgical Journal and Review,* No. xi.

§ For a diagram and explanation of this apparatus, see *Medico-Chirurg. Journ. and Review,* vol. ii. p. 355. It consists of a circle composed of seven feet of the ileum of a calf, and two small pig's bladders, united to each other, and also to the gut, by means of a tube of sole leather, properly fitted with valves to imitate those of the ventricle and auricle in a single heart. This instrument being

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freed from the air it contained, was filled, with the exception of one of the bladders, with a coloured fluid, and hermetically closed, so as to represent, at the commencement of the experiments, a ventricle in a state of dilatation, an auricle in that of contraction, and the whole circle of the vascular system filled with fluid in a quiescent state. In the circumference of the circle was afterwards added a piece of cork, perforated with small holes, to represent the capillary system, and divide the circle into an arterial and a venous portion.

with the living circulation, cannot be imitated by any machine, however perfect.

A second experiment is detailed by Dr. Johnson, to shew the effects of a dilatation of the arterial system during the systole of the ventricle; but it is less happily conceived, and of course less demonstrative than the former. It is nevertheless but justice to admit, that the whole is the best illustration of the subject which has come within our knowledge*.

The singular effect produced on the skin by the internal use of nitrate of silver, first observed by Fourcroy, and more lately by our correspondent, Mr. Harrold†, has produced a paper on the subject by Dr. Albers‡, who details several cases in which its use produced a blue colour of the skin, but does not attempt to give any explanation of the fact. He however remarks, that as the blood is of the natural hue, it appears pretty certain that the seat of the blue colour in the cases referred to, is the reticula malphigiana. The fact is also particularly noticed, and its causes investigated, in an inaugural dissertation by M. Butini of Geneva§. The symptoms he describes are the same as those detailed by the other writers who notice this effect. He is of opinion that it is diffused by means of the circulation, and that the cutis is the seat of the colour; but he considers it doubtful whether it occupies the fibres of the cutis itself, or is seated in the rete mucosum, as in the Negro. With regard to the chemical changes which operate in effecting the colour, he imagines it possible that, as bile, albumen, and many other animal humours precipitate nitrate of silver, the colour-

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[*] To render the subject more intelligible to our readers, we extract the conclusions which Dr. Johnson regards as established by his experiments. 1st. In ordinary states of the system there is neither dilatation nor contraction in the arteries corresponding with the systole and diastole of the ventricle. 2d. That during auricular contraction and ventricular dilatation, the blood is quiescent, both in the arterial and venous systems. 3d. That were there dilatation and contraction in the arteries corresponding with systole and diastole, the same movements, though in a less perceptible degree, must inevitably take place in the veins. 4th. That were the arteries to dilate during the systole of the ventricles, so as to keep up a diminished current through themselves and the capillaries during the diastole, then an accumulation would take place in the veins that would ultimately destroy the harmony between the two systems, and even the machine itself.

[†] Vide *Repository*, vol. v. p. 372.

[‡] *Medico-Chirurg. Trans.* vol. vii. p. 285.

[§] *De usu interno præparationum argenti*, &c. auctore Adolphus Butini, Civis Genevensis, &c. Monspelii, 1815.

ing matter is carried through the circulation, not in the state of the nitrate, but in that of the oxide: but the circumstance of the colour being more intense in those parts of the skin most exposed to the light, is a considerable objection to this opinion*. If we might hazard an opinion, we would suggest the probability, that in some particular states of the constitution, more than the usual quantity of muriate of soda is evolved in the secreted fluid thrown off by transpiration† from the rete mucosum; and the nitrate, being carried there by the blood in the course of the circulation, is decomposed and changed into muriate of silver. As the muriate, however, is insoluble, it is probable that it is not again taken up by the absorbents; and as it accumulates, suffers its usual change of colour by the action of light. This explanation is rendered probable by the fact, that the parts of the skin which are exposed to the light more particularly contract the blue colour, produced by taking the nitrate; and it also receives some support from the fact, which has been determined by experiment, that mineral poisons, as well as animal and vegetable, are carried into the circulation before producing their specific effects upon particular organs.

On the principle to which we have just referred, Sir Everard Home has endeavoured to explain the specific effects of the colchicum *autumnale* in relieving the local symptoms of gout‡. The conclusion drawn by Sir Everard from his experiments, is that the action of the colchicum upon the different parts of the body, is produced "through the medium of the circulation, and not in consequence of its immediate effects upon the stomach and intestines."

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* Butini himself observes, "Antequam igitur persolvi possit quæstio, cum nitras oxidumne argenti sanguinem permeent, hoc prius est perpendendum, 1°. an nitras, in præcipitatis quæ cum albumine, &c. efformat, simul resolvatur; 2°. an albumen, bilis, &c. eadem quâ extra corpus sic in vivo corpore præcipitandi nitratem facultate, fruantur." p. 26, *in nota.*

† According to Thenard, the sweat of the human body contains some free acetic acid and muriate of soda, with traces of phosphate of lime and oxide of iron.

‡ Vide *Phil. Trans.*, 1816, p. 257. In the first of Sir Everard's experiments, sixty drops of a vinous infusion of the colchicum, in a sufficient quantity of water, was thrown into the circulation by the jugular vein, and the same effects produced as when a similar quantity was introduced into the stomach. In another experiment, when the quantity was increased to 160 drops, all the violent symptoms of an over-dose taken by the mouth, and its fatal consequences, were the result.

On the function of nutrition, a series of experiments have been made by M. Majendie[*]. The immediate object of the physiologist in this inquiry, was to ascertain what produced the great quantity of azote present in animals, and whether it be derived from the food or be the product of nutrition itself. The method he adopted, was the feeding animals on substances devoid of azote, or which he supposed contained none, such as sugar and distilled water. A dog, thus fed, became thin and weakly in three weeks; at which time, an ulceration appeared in the corner of one of the eyes, and proceeded to that of the other; the humours soon exuded through the opening this produced, until both eyes became quite dry; and the animal died on the thirty-second day of the experiment. On dissection, it appeared that there was a complete absorption of the fat, and the muscles were reduced to five-sixths of their natural size. The bile and urine resembled those of herbivorous animals; the former containing a considerable quantity of pycromel, and the latter being sensibly alkaline, but devoid of uric acid and phosphates. The same effects were produced by feeding dogs on oil, gum, and butter. We are rather surprised at the last mentioned substance being enumerated among those which M. Majendie found to produce the effect he describes, as, like all other animal substances, it contains a considerable portion of azote.

The same physiologist, in conjunction with M. Chevreul, has published some experiments on the intestinal gases. From the translation of this Essay in the *Repository*[†], it will be seen, that little more was effected by these experiments than the confirmation of those published in 1789 by M. Juvine of Geneva.

Sir Everard Home has observed some singular circumstances connected with the nutrition and formation of parts in the frog[‡]. In the tadpole state of this animal, a store of fat is formed in the intestines, and laid up in the cavity of the abdomen; which Sir Everard, with much probability, supposes "to furnish the necessary means of supplying the different structures in the frog, not already existing in the tadpole." He founds this opinion chiefly on the fact, "that in all ova, the embryos of which have bones, there is a certain portion of oil, and in those ova whose embryos consist entirely of soft parts there is none*;" hence, on the supposition that a certain portion of oil is necessary for the formation of bone, and as none is found in the ova of the frog, his conclusions of the use of the store of fat, which the tadpole lays up before the metamorphosis into a frog takes place, is much strengthened.

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[*] This memoir was read at the sitting of the Royal Academy of Sciences of Paris, on the 19th of August 1816. For an abstract of it, vide *Annales de Chimie et de Physique,* tome ii. p. 426.

[†] Vide *Repository,* vol. vi. p. 421.

[‡] Vide *Phil. Transactions* for 1816, Pt. ii. p. 301.

No part of physiology is so interesting as that which is connected with the function of vision. M. Paulino, by a very simple experiment, has proved, that the opinion which has been generally received, that the dilatation and contraction of the pupils serves to accommodate the sight to the distance, is incorrect. He remarks, that a common pin is not directly perceived when it is placed close to the pupil, and the next moment its shadow only is distinguished; but when it is gradually removed to a certain distance, the eye perceives it without any alteration in the adjustment of the pupil†.

Dr. Brewster has ascertained that a frequent cause of the indistinctness of vision, in the examination of minute horizontal lines, as in astronomical and trigonometrical observations, is the fluid which lubricates the eye passing down in streaks over the transparent cornea, and consequently intersecting the lines; but as this cannot happen when a vertical line is examined, the perception of it is distinct and complete in all its parts.

The same acute observer has ascertained a peculiarity connected with the crystalline lens of fishes and quadrupeds‡, depending on that structure of the organ which we have already noticed. By exposing to a polarised ray the lens of a large cod, in its capsule, in a hollow parallelopiped of glass containing Canada balsam, on turning it until the diameter, corresponding to the axis of the eye, was parallel to the ray, he observed the appearance of twelve luminous secters, formed by a black cross traversing the lens, and two dark concentric circles. The four interior sectors "were small, and exhibited a white tint of the first order," more brilliant towards the centre; the

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[*] Mr. Hatchett has observed, that as the principal difference between milk and the yolk of egg is, "that the former is in a dilute, and the latter in a concentrated state, it appears that the young of oviparous animals during the period of incubation, are nourished by a pabulum similar in quality to that on which the young of viviparous animals are supported during the period they are at the breast, or nourished on the milk of their mothers; it is only in a concentrated state, and condensed into the smallest possible bulk, to supply the great quantity of nourishment required by the animal in ovo during incubation."—*Phil. Trans.*, 1816, Part ii. p. 309.

[†] M. Paulino's paper on this subject was read at the Academy of Sciences of the Royal Institute of France, on the 19th of August last.

[‡] *Phil. Trans. for* 1816, Part ii. p. 311.

middle four were larger, "separated from the interior ones by a broad dark circle," and displayed "a white tint of the same intensity;" the outer four were extremely faint. These appearances do not vary by turning round the lens, provided "its axis, which corresponds to the axis of vision, may always be parallel to the polarised ray;" but necessarily change in new positions of it. The same phenomena were visible in the lens of the *haddock;* but in that of the sheep and oxen there is one series only of luminous sectors, "corresponding with the intermediate set in the crystalline of fishes." Dr. Brewster draws the following conclusions from his experiments:—"1. All the parts of the crystalline lens of fishes, corresponding to the two dark concentric circles, exercise no action upon polarised light. The outward spherical shell, which acts upon light like one glass of doubly refracting crystals, and also the solid nucleus, which exercises a similar action, are in a state of mechanical dilatation; while the middle spherical shell, which acts upon light like the other class of crystals, is in a state of mechanical contraction." 2. The structure of the lens in fishes "is not symmetrical," but consists "of a number of coats of different densities; but it has a distinct relation to that diameter of the sphere which is the axis of vision." 3. The variations of density, however, "are not related to the centre of the crystalline, but to the diameter which forms the axis of vision." "4. It is highly probable that this peculiar structure of the crystalline is necessary for correcting the spherical aberration."

On the subject of *Pathology,* strictly speaking, we have but little to notice. Some objections of Dr. Wilson Philip to Dr. Parry's view of Inflammation*, and the defence of Dr. Parry†, are already before our readers; as are also some original observations of Dr. Burrows on the pathology of Insanity‡, which, as they throw considerable light upon its causes, are likely to improve the practice in this most afflicting of human maladies. An interesting paper on the suppression and diminished excretion of urine§ will also be found to contain some remarks well worthy of attention.

That the *Pathology* of many of the organs is yet not perfectly understood, daily facts are occurring to convince us. The extent to which the heart, for example, may be injured, without the destruction of its functions, appears to be, at least in quadrupeds, very considerable, from a fact published by Mr. Grainger of Burton-upon-Trent‖, of a ball having been found *in a cyst in the substance of that viscus*, about two inches from the apex, in a buck killed at Brady Park. It weighed 292 grains, and was quite flat. The period at which the animal had received this ball could not be ascertained; but he was remarkably fat and healthy when slaughtered. With regard to the circulating medium, Dr. Gordon, in a communication to the Royal Society of Edinburgh, has stated reasons, from his own experience, for believing that the *buffy coat*, or *inflammatory crust*, is common to the arterial as well as the venous blood, in similar states of the system; and the remark has been confirmed by Dr. Gregory, Mr. Ashburner, and Mr. Wishart.

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* Vide *Repository,* vol. vi. p. 59. † Ibid, p. 113.

‡ Ibid, p. 279. § Ibid, p. 353.

‖ *Edin. Med. and Surg. Journal,* vol. xii. p. 498.

Owing to the morbid deposition of phosphate of lime, the parietes of cysts have occasionally been found assuming an osseous consistence and character; but we believe that the fact recorded by M. Laugier, of its forming nearly the whole of the contents of a cyst[1], is new in pathology.

The Elements of Anatomy by Grimaldi[2]; an elaborate Inquiry into the Form and Structure of the Cranium, by Dr. Spix, published at Munich[3]; Dr. T. R. Park's valuable papers on Sensation[4]; M. Majendie's Précis Elémens de Physiologie, of which we have given an analysis[5]; Dr. Reade's Experimental Outlines for a new Theory of Light and Vision; and Reid's Elements of General Pathology[6], are the only other sources of information on the branches of Medical Science referred to in this division of our subject.

CHEMISTRY.

Nothing can more strongly elucidate the degree of caution which is necessary to be observed in admitting, as incontrovertibly established, any philosophical proposition, than the various revolutions which Chemical Science has undergone in the last half century. These changes are still progressive; and it is impossible to anticipate what may be the leading doctrines of chemistry ere ten more lustres have passed away.

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[1] *Annals de Chimie, &c.* tome ii. p. 126; and *Repository*, vol. vi. p. 435.

[2] *Elementi di Anatomia*, 11 vol. 8vo.

[3] *Cephalogeneniis sive Capitis ossei structura, formatio et significatio, per omnes Animalium Classes, Familias, Genera et Ætatis, digesta; Tabulis illustrata* Auctore J. B. Spix.

[4] Vide *Journal of Science and the Arts*, vol. i. p. 141. and vol. ii. p. 1. The first of these ingenious essays is "*On the Laws of Sensation; with a prefatory View of the present State of Physiology*:" the second contains "*An Inquiry into the Varieties of Sensation resulting from difference of Texture in the Sentient Organs.*"

[5] *Repository*, vol. vi. p. 62.

[6] This work is published at Halle, in 2 volumes.

If it be admitted that the improvement and perfection of apparatus contribute very materially to the perfecting of Science, much may be anticipated. One of the most important of these within the period of our Retrospect, is the employment of mixed gases in the apparatus adapted to the *Blow-pipe* made by Mr. Newman. Although Dr. Clarke, to whom we are indebted for this improvement, was not the first who used gases in a state of mixture from a common reservoir*, yet the credit is due to him for having ascertained the extraordinary intensity of the heat extricated by the ignition of such a mixture, employed in a properly constructed apparatus†. It had been ascertained by Sir Humphrey Davy, that there was "no danger in burning the compressed gases by suffering them to pass through a tube $\frac{1}{80}$ of an inch in diameter and three inches in length; but experience has proved that this is true only as long as the mixed gases issue from the tube with considerable impetus; for when the stream of gas becomes languid, there is a retrogade movement of the flame; and unless the stop-cock, which cuts off the communication between the ignited gas and the explosive mixture contained in the apparatus, be instantly turned, there is the greatest danger of an explosion‡. Several plans have been suggested with the view of preventing this accident. To that of Mr. Edwards§, in which the gases are contained in separate cavities, and their mixture takes place only at the point of their ignition, it may be objected, that as the gases are of different degrees of gravity and elasticity, they must necessarily issue with different degrees of rapidity, and hence their combining in the proportions which are essentially requisite for obtaining the greatest heat, must always depend on accidental circumstances||. It is also problematical, whether, even in the event of

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* This is allowed by Dr. Clarke to be due to an unknown native of Germany.

† Vide *Journal of Science and the Arts*, vol. ii. p. 104; *Annals of Philosophy*, vol. viii. p. 356; and *Repository*, vol. vi. p. 376.

‡ Dr. Clarke's blow-pipe exploded on the 7th of October, without any apparent retrograde motion of the flame.—Vide *Annals of Philosophy*, vol. viii. p. 364.

§ Vide *Repository*, vol. vi. p. 375.

|| Dr. Clarke, in stating that the best proportions are two parts, by bulk, of *hydrogen*, and one of *oxygen*, observes, "if an excess on either part be admitted, it is better it should preponderate on the part of the *hydrogen;* because this, owing to its extreme volatility, is apt to escape; and the smallest loss of hydrogen, by altering the proportion between the gases, deteriorates the mixture, causing it to become extinguished after ignition, when propelled in a full stream."—Vide *Annals of Philosophy*, vol. viii. p. 360.

the proportions being the best, their union at the moment only of ignition would produce the effect, which is the result of their combination in a condensed state. Mr. Newman himself, by an ingenious device, has endeavoured to remedy all danger likely to arise from using mixed gases with his blow-pipe*; and we believe trials made with it at the Laboratory of the Royal Institution have fully confirmed the inventor's expectations of its utility†.

The *Pyrometer* has hitherto been regarded as affording an exact comparative knowledge of temperature, inasmuch as it was believed that the dilatation of the metal was always in proportion to the temperature; but Dulong has proved that these instruments indicate too high a temperature‡. Connected with the comparative measurement of temperature, also, is a thermometer invented by M. Gay-Lussac, which is well adapted for ascertaining the temperature of lakes and the sea at great depths§.

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[*] Mr. Newman's device consists in soldering a metallic cylinder, shut at one end, which is perforated into the body of the gas holder, and inverting into it another cylinder, containing water, and guarded with wire gauze, through which the condensed gas passes before issuing from the capillary tube to be ignited. All communication is thus cut off between the ignited gas and condensed mixture in the gas holder.

[†] Mr. Thomson, one of the Editors of the *Repository*, before he had seen Mr. Newman's improvement, had conceived the idea of a blow-pipe, which might be used with mixed gases without any risk. It is in the form of a pair of small bellows, the nozzle being a capillary tube, furnished with a stop-cock; and the upper and under plates metal, with sides of strong varnished leather, covered with several layers of gold-beaters' skin. The greater curve of the upper plate is very considerably thicker than the part next the nozzle, so that it acts with the force and in the manner of a lever, in descending; and when it descends to a certain point, turns the stop-cock. As it is easily demonstrated that "the mechanical force," to borrow Sir H. Davy's words, "which rapidly throws portions of cold explosive mixture upon flame, prevents explosions at the point of contact," it is evident that a very certain safe-guard in the employment of a blow-pipe charged with mixed gases, would result from constructing the apparatus in such a manner as to produce a constant forcible emission of the explosive mixture from the blow-pipe: and that such an effect must be produced by Mr. Thomson's blow-pipe, is evident, during the descent of the upper plate; whilst the danger is further guarded against by the turning of the stop-cock, as above described. When this blow-pipe is perfected, Mr. Thomson intends to lay a description of it, illustrated by a plate, before the readers of the *Repository*.

[‡] *Annales de Chimie et de Physique*, tome ii. p. 263.

[§] For the description of this instrument, we must refer our readers to the author's note on it, in the *Annales de Chimie, &c.* tome iii. p. 90.

A new *hygrometer*, of so much delicacy that it indicates the moisture produced by the approach of the hand, has been invented by Mr. Wilson of Dublin*. The importance of such an apparatus, in experiments in which small changes of moisture are likely to vary the results, is sufficiently obvious.

Since the discoveries of Volta, the doctrines of *electricity* have been considerably modified, and the subject still permits ample room for investigation. Mr. Lugt, a Dutch philosopher, endeavoured to prove, by experiments with an isolated apparatus, that during the rotation of the disk, the fluid is not supplied from the floor; but that it is merely excited by friction, and refurnished, in "a continual circle, by the intermedium of the conductor while the rotation lasts," owing to a tendency in the disk to resume its equilibrium and attract towards it the fluid excited by the friction. This theory has lately received some support by the experiments of Mr. De Nelis of Mechlin†.

The explanation which Volta gave of the phenomena of *galvanism* was purely electrical, and rested on the principle, that the contact of two metals destroyed the equilibrium of electricity, and the metals, whilst in contact, have different states of electricity; the chemical phenomena being merely consequences of the electrical discharge. Berzelius maintained the directly opposite opinion, considering the electricity to be the consequence of the chemical actions: whilst Davy has endeavoured to reconcile both these hypotheses by considering the phenomena to depend partly on electrical, and partly on chemical action. M. De Luc is one of the most ardent of those philosophers who still contend for the simple electrical hypothesis ‡. His opposition to any other explanation has produced a very interesting communication on the subject from Dr. Maycock§: but we confess that the theory of galvanism still appears to be involved in much obscurity. We may here, however, mention a curious chemical effect of the dry galvanic pile, as it is improperly termed, which seems to afford some support to the chemical hypothesis:—the continued action of two considerable piles of Zamboni produced "the abstraction of nineteen parts of the oxygen present in the portion of the atmospheric air, in which the columns had been hermetically confined." The oscillations in the pendulum, and all electrical phenomena, ceased after the absorption of the oxygen*.

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* The instrument consists of the urinary bladder of a rat, tied to a thermometer tube, and filled with mercury, so that, in a perfectly moist atmosphere, the metal stands at the bottom of the tube. This point is marked zero. By then suspending the instrument in a glass vessel, together with a quantity of strong sulphuric acid, so as to dry the atmosphere, the bladder contracts and rises in the tube. This is the point of extreme dryness, and is marked 100°, the intermediate space between it and 0 being divided into 100 equal parts. Dr. Thomson judiciously suggests the propriety of reversing the scale, by placing 0 at the point of extreme dryness, and 100 at that of extreme moisture.—*Annals of Philosophy*, vol. viii. p. 154.

† *Philosophical Magazine*, vol. xlviii. p. 127.

‡ It is also powerfully supported by Professor Pfaff of Keil.

§ Vide *Philosophical Magazine*, vol. xlviii. p. 165 and 255.

The last opinion which we have to notice, is that of Mr. Alexander Walker†, who supposes that he has ascertained that the only electrical agents are the oxygen and the azote of the atmosphere, "mechanically divided, unchanged and unalloyed;" and, on the same principles, that the only galvanic agents are the oxygen and the hydrogen of water, chemically separated, and equally unchanged and unalloyed.

We shall notice in its proper place the employment that has been lately made of galvanism as a remedy in diseases attended with a diminution of nervous energy.

It is unnecessary to insist on the advantages of correct *classification*; that of M. Gay-Lussac of the undecomposed substances, and his ideas of their chemical properties, have been severely criticized by Sir H. Davy. M. Lussac considers hydrogen as an *alkalizing* principle, and *azote* as an acidifying principle; an opinion, which Sir Humphrey regards as quite inconsistent with the facts, that some of the strongest acids are formed by the union of hydrogen and bodies not in themselves acid, whilst azote forms nearly $\frac{8}{10}$ of the weight of ammonia‡.

Some useful results are, at length, likely to be obtained from the doctrine of the polarisation of light, on which so many observations have been lately made. Dr. Brewster has been enabled by its assistance to explain some new properties of heat§; and M. Biot has ascertained, "that substances similarly constituted, exert a sensible and a similar action on polarised light*.

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* Vide *Journal of Science and the Arts*, vol. ii. p. 161. We have reasons for believing that Dr. Granville is the author of this observation.

† Vide *Annals of Philosophy*, vol. viii. p. 184. M. Sarrazin, a surgeon of Bellengin, has lately attempted to demonstrate that there exists some analogy between galvanism and magnetism. Vide *Repository*, vol. vi. p. 168.

‡ Vide *Journal of Science and the Arts*, vol. i. p. 283.

§ Vide *Phil. Trans.* 1816, Part i. p. 46. This paper, which is intitled, *On new Properties of Heat, as exhibited in its Propagation along Plates of Glass*, explains many curious properties of light and heat.

Since the discovery of the wire gauze safety-lamp, by Sir Humphrey Davy, an invention which constitutes the proudest triumph of philosophy in the cause of humanity, the attention of its ingenious discoverer and that of several other chemists has been particularly directed to the consideration of the nature of *flame*. The temperature of the flame of a common candle was demonstrated by the late Mr. Tenant, to be sufficient to melt filaments of platinum; but that this high temperature is confined to the surface is demonstrated by some experiments of Mr. George Oswald Sym†, which prove that the flame of a candle is an elliptical bubble, the centre of which is filled with the volatalized matter of the candle in an unignited state; while the superior intensity of light and heat is at the apex of the cone of flame. Flame, in all cases, according to the opinion of Sir H. Davy‡, "is a continued combustion of explosive mixtures;" and if Mr. Sym's opinion be correct, every flame is hollow, except in the case of mixed gases which do not require the contact of atmospherical air for their combustion.

Another effect of heat, the dilatability of bodies, has been more fully investigated. Gay-Lussac, in making some experiments on the expansion of fluids, ascertained the fact that alcohol and sulphuretted carbon give the same volume of vapour, and possess an equal expansibility§: a circumstance which is the more remarkable, as the density and volatility of these liquids are very different: and the experiments of M. M. Dulong and Petit|| have led to the conclusion, that perhaps no substance, except air, follows the law of dilatations proportional to the increase of temperature; and hence this fluid becomes a standard for measuring the comparative dilatation of all other bodies. These are facts of the first importance for the advancement of our knowledge regarding the laws which regulate the

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[*] *Bulletin de la Société Philomatique de Paris,* quoted in the *Journal of Science,* &c. vol. ii. p. 174.

[†] *Annals of Philosophy,* vol. viii. p. 321.

[‡] *Journal of Science and the Arts,* vol. ii. p. 124.

[§] *Journal de Chimie et de Physique,* tome ii. p. 134. In these experiments another curious fact is stated; that of the four liquids which were the subject of them; viz. alcohol, sulphuretted carbon, ether, and water; the ether, which is the most expansible, produces the least vapour; and water, which expands the least, the greatest volume of vapour.

[||] *Annales de Chimie et de Physique,* tome ii. p. 240.

cooling and heating of bodies at all temperatures; and consequently tend greatly to elucidate the theory of heat.

The apparent constancy of the proportions of the azote and oxygen in atmospherical air, could not fail to attract the attention of philosophers; but no satisfactory solution of the phenomenon was offered. The attempt however has been again made by M. Benedict Prevost, who has stated it as his opinion, that we have not the means, even by experiments continued for a great number of years, of ascertaining or appreciating the diminution of oxygen in the atmosphere, although that absorbed in combustion, in the respiration of living beings, and by the fermentation of vegetable soil, was never restored nor replaced. On certain data which he lays down as the basis of his calculations, M. Prevost assumes, that the total weight of the atmosphere is equal to that of 4000 cubic leagues of mercury; that the weight of the oxygen taken separately, is equal to 900 of these cubic leagues; that, calculating the number of men on the earth at a thousand millions, and that each man consumes two pounds (poids de marc) of oxygen in the day, all the other animals, comprehending those which breathe in air and in water, consume twice as much as the men, and that fermentation and combustion destroy as much as the men; the whole quantity which is consumed in a hundred years by men, animals, combustion, and fermentation, is equal to $\frac{1}{8}$ of a cubic league of mercury; which being only the 7200th part of the whole weight of this gas[*]; the most accurate methods of analysis would not be able to discover a sensible diminution, seeing that they admit of a loss of $\frac{1}{400}$. M. Prevost, nevertheless, believes, that causes exist which may restore either altogether or in part the oxygen thus transferred into carbonic acid gas; such as the meeting of two clouds positively and negatively electrified, the discharge of which he conceives would produce a decomposition of water, and diffuse a certain quantity of oxygen through the lower strata of the air, the hydrogen ascending to the upper regions. If these conclusions be accurate, they throw considerable doubt on the opinion of Saussure[‡] regarding the difference in the proportions of the elements of the atmosphere in summer and in winter.

Iodine.—The degree of perfection at which our knowledge of this supporter of combustion is already arrived, is one of the most striking proofs of the real advancement of chemical science. We are not aware, that any additional information regarding it has occurred in the period of our *Retrospect*. Berzelius has attempted to explain the phenomena connected with it, according to the language of the old doctrine respecting the nature of Chlorine*; and Van Mons has suggested, "that it receives reduced metals in exchange for its oxygen, and forms, like the dry fluoric and muriatic acids, combustibles salifiable by oxygenation; for instance, by the oxidation of their metals. The hydrogen," he says, "does not displace the metal from them, but composes the metallo-iode into an iodure of reduced metal, by producing actually an acidifiable combustible from the iodic acid†."

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[*] *Bibliotheque Universelle,* July 1816.

[†] Vide *Bibliotheque Universelle; Annales de Chimie et de Physique,* tome ii. p. 199; and *Repository,* vol. vi. p. 339.

Phosphorus.—M. Dulong has endeavoured to prove that this substance is capable of combining with oxygen, so as to form at least four distinct acids. The first, which is produced by the re-action of water on alkaline phosphurets, and contains a minimum of oxygen, he names *hypo-phosphorous acid;* the second is *phosphorous acid* discovered by Sir H. Davy; the third is the *phosphoric acid;* the fourth is still undescribed‡.

We have the authority of Van Mons for stating that it has been discovered in Italy, that the saturated solution of carbonate of potash (tincture of salt of tartar) dissolves phosphorus without decomposing it; and the same effect is produced by an alcoholic solution of pure potash. In both cases a liquid phosphuret of the alkali is formed§.

Carburet of Phosphorus.—The substance which remains behind on straining new-made phosphorus in a fluid state through chamois leather, was supposed by Proust to be a carburet of phosphorus; but Dr. Thomson has discovered that it is mixed or combined with oxide of phosphorus. He, however, asserts that he has discovered the method of procuring a pure carburet, which he found by analysis to consist of carbon 0·38, and phosphorus 0·62. It is a soft powder, of a dirty yellow colour, tasteless, inodorous, and unchangeable in the air at a temperature much above 212°. It burns, however, in a red heat, giving out its phosphorus, but leaving its charcoal unconsumed, coated with phosphoric acid||.

Phosphureted Hydrogen Gas.—A series of experiments by Dr. Thomson have thrown some new light upon the properties

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* *Annals of Philosophy,* vol. viii. p. 256.

† *Philosophical Magazine,* vol. xlviii. p. 147.

‡ *Annales de Chimie et de Physique,* tome ii. p. 141.

§ *Philosophical Magazine,* vol. xlviii. p. 145.

|| *Annals of Philosophy,* vol. viii. p. 157.

of this curious compound. This gas when pure*, he found to be colourless, having the odour of onions and an exceedingly bitter taste. It is not decomposed when kept in contact with pure water in close vessels; but is partly so when left over water containing common air. It burns spontaneously on coming in contact with atmospherical air, at a temperature of 148°, and is, also, decomposed by passing electric sparks through it. Its specific gravity is 0·9022: and, according to Dr. Thomson, it consists of 1 part of hydrogen and 12 of phosphorus: or

Hydrogen.......	694.
Phosphorus..................	8328.
	9022

Phosphureted hydrogen gas is not decomposed by nitrous gas, unless the electric spark be passed through the mixture; in which case, water and phosphoric acid are formed. Under the same circumstances it is decomposed by oxide of azote, phosphoric acid and azote being the result; by chlorine, the residuum being bichloride of phosphorus, which on the addition of water is converted into muriatic acid, and phosphoric acid. With iodine it forms iodide or biniodide of phosphorus, according to the proportions of the iodine employed.

Dr. Thomson found that 100 parts of water absorb 2 parts of phosphureted hydrogen gas, acquiring a yellow colour, and an intensely bitter taste, having the smell of the gas, and precipitating various metallic solutions†. The Doctor conceives the name of the gas ought to be *hydroguret of phosphorus*.

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* He obtains it pure by filling a tubulated retort, which holds 12 cubic inches, with a mixture of three parts of water that has been recently boiled, and one part of muriatic acid, and dropping into it half an ounce of phosphuret of lime in lumps. The retort is then filled to the extremity of the beak with the boiled water; and the peak plunged into a vessel filled with water, also recently boiled. By the application of a gentle heat to the retort, the gas is given over. If the phosphuret be good, 70 cubic inches may be procured from half an ounce. *Annals of Philosophy*, vol. viii. p. 87.

† The following table of these precipitates is given by Dr. Thomson:

Saline Solutions.	*Colour of Precipitates.*
Nitro-muriate of gold	Dark purple, almost black.
———— of platinum	Yellow flocks fall slowly.
Pernitrate of mercury	Copious dark brown flocks.
Nitrate of silver	Black flocks.
Sulphate of copper	Dark brown precipitate.
Nitrate of lead	A slight powder.
Persulphate of iron.	
Sulphate of zinc.	
Muriate of manganese.	

Hydrogen.—Van Mons, in an experiment which is related in the *Philosophical Magazine* (vol. xlviii. p. 146), has succeeded in forming a concrete amalgam with hydrogen and mercury, merely by directing a stream of hydrogen gas on some red oxide of mercury, at a low red heat: water was obtained, and a concrete metal formed, which resisted the fire for a long time, but was ultimately decomposed, giving out hydrogen and running mercury. This new metal, Van Mons adds, does not appear susceptible of more than one degree of oxidation*.

Hydrogen gas, in the usual methods in which it is generally obtained, is seldom free from impurities; hence the impossibility of obtaining accurate results in experiments into which it enters. To remedy this inconvenience, and enable pure hydrogen gas to be obtained by a less troublesome process than the decomposition of water passed through a red-hot gun-barrel, which, although it yield a very pure gas, yet is a difficult and troublesome process, a series of experiments were made by Mr. Donovan†, who at length succeeded in attaining the object of his research. He has ascertained that hydrogen gas, procured from the decomposition of water by iron or zinc, and an acid, may be rendered perfectly pure by first agitating it with lime water during a few minutes, next with a little nitrous acid, afterwards with a dilute solution of sulphate of iron, and lastly with water. The gas is now inodorous, and burns with a faint and nearly invisible flame.

Charcoal.—Dobereiner, in his Elements of Pharmaceutic Chemistry, has suggested the idea that this substance contains a metallic basis; and conceives he has obtained it, by exposing a mixture of equal parts of charcoal and black oxide of manganese, and two parts of iron filings, for several hours to a white heat: but Dr. Thomson properly conceives, that, as the substance he then obtained had all the properties of carburet of manganese, the supposed metal may be this substance‡. Its colour is black grey, and its lustre considerable. It is not capable of being melted, and burns only in a white heat. Its specific gravity is 3·5. It conducts electricity, and combines with other metals.

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* Both Dobereiner and Sir H. Davy have formed this amalgam, by introducing a globule of mercury into a vessel of water, and placing it near the negative wire of a galvanic battery. From the results of these experiments corresponding with that of Van Mons, there is certainly some probability for the conjecture of Dr. Thomson (*Annals of Philosophy*, vol. viii. p. 31) regarding the metallic nature of hydrogen.

† *Philosophical Magazine*, vol. xliii. p. 138.

‡ *Annals of Philosophy*, vol. viii. p. 229.

Metals.—The discovery of the power of mixed gases, when used with the blow-pipe, is likely, not only to improve our knowledge of this class of bodies as it now exists, but to extend, much beyond what we can at present conceive, the boundaries of the class. *Platinum*, for example, is fused as soon as brought into contact with the ignited gas, and burns vividly, like iron wire in oxygen gas; *gold* is volatilized[*]; and *plumbago* fused into a magnetic bead; whilst many of the most refractory earths, as silex, strontion, magnesia, and barytes, are readily reduced to their metallic bases. In other respects we have little to notice regarding metals.

Gold.—The experiments of M. Figuier[†] have proved that a precipitate, by an alkali, from a solution of this metal, is an oxide; and the same quantity of the precipitate is obtained, whether the solution be neutral, or contain an excess of acid. Of all the alkaline bodies, lime decomposes the largest quantity of neutral muriate of gold.

Mercury.—An interesting series of experiments on the combinations of this metal with oxygen and sulphur, has been made by *M. Guibourt* of Paris[‡]. The conclusions drawn by this young chemist are, that mercury is readily oxidized by long agitation in atmospherical air; and the black powder which results, is a mixture of deutoxide of mercury and mercury: that protoxide of mercury cannot be obtained in a free state; because, as soon as it is separated from its combinations, it passes at once into mercury and the deutoxide: that the oxide of mercury, which exists in mercurial salts with a maximum of mercury, consists of 100 parts of mercury and 4 of oxygen: and that the red oxide is composed of 100 of mercury and 8 of oxygen[§], and cannot be sublimed, but is soluble in water, the solution, like the alkalies, changing to green the colour of tincture of violets. The red oxide, he also ascertained, combines with ammonia in such proportions, that the oxygen and hydrogen saturate each other; and the mercurial compound is a simple azoture*. With regard to the combinations of sulphur and mercury, *M. Guibourt* affirms, that cinnabar is the only real sulphuret of this metal; and that it is formed of 100 parts of the metal, and 16 of sulphur.

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[*] In the experiment to determine this point, the bead of gold was placed upon the tube of a tobacco pipe, which was fused, and the clay, on the operation being stopped, exhibited a halo of the most beautiful and lively rose colour.

[†] *Journal de Pharmacie et des Sciences accessoires*, Juin 1816; and for a translation of M. Figuier's paper, vide *Repository*, vol. vi. p. 424.

[‡] Vide *Journal de Pharmacie*, No. vii. Juillet 1816, p. 296; and No. viii. Aout 1816, p. 365.

[§] It may be necessary to remind our readers, that the proportions obtained by Lavonier were, mercury 93, and oxygen 7 parts, in 100 of the oxide.—Vide *Mem. de l'Acad. des Sciences*, 1781, p. 464.

Manganese.—A red ore of this metal, from Laugbanshytta, has been analysed by Berzelius, and found to consist of

Bisilicate of manganese.........	93·288
Bisilicate of lime.............. ..	6·712
	100·000

Arsenic.—Fischer's idea of the acidification of white oxide of arsenic, during its solution in water, noticed in our last *Retrospect* †, has been disproved by some experiments of Mr. R. Phillips; who found, that on dissolving *entirely* a fragment of white oxide of arsenic in successive portions of distilled water, each portion of the solution, treated with ammonia and nitrate of silver, gave the well-known yellow precipitate of *arsenite* of silver; whereas a brick-red *arseniate* would have been produced, if arsenic acid had been present ‡.

Plutonium.—This name has been given to the metallic basis of barytes, by Professor Clarke, who obtained it by exposing nitrate of barytes in a cavity upon a stick of charcoal, to the flame of a condensed mixture of the ignited gases. The metal was procured in brilliant white globules studding the cavity of the charcoal, and having the appearance of globules of mercury, or of pure platinum after fusion. It forms imperfect alloys with silver, gold, and platinum, and more perfect with iron and copper §.

Titanium.—By the reduction of an oxide of titanium by the ignited mixed gases, Dr. Clarke has ascertained that that metal, when pure, is not red, as stated in books of chemistry; but black, exhibiting the lustre of pure polished iron when filed ||.

Tantalum.—The oxide of this metal has been reduced to its metallic state, and the properties of the metal examined by Berzelius. Its colour is dark-grey; its lustre, when filed, that of iron; and it may be reduced to powder by trituration. It is not altered even when pulverized by muriatic acid, nitric acid, or aqua regia. It burns when heated to redness, and is

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* This fact was first suggested by M. Gay-Lussac, in his memoir on Iodine, *Annales de Chimie*, tome xli. p. 117.

† Vide *Repository*, vol. vi. p. 23.

‡ Vide *Annals of Philosophy*, vol. viii. p. 152.

§ Ibid, vol. viii. p. 357.

|| *Journal of Science and the Arts*, vol. ii. p. 115.

converted to a greyish-white imperfect oxide; and when detonated with nitre, the remaining mass is snow-white, and is a compound of potash and an oxide of tantalum, which contains 100 metal + 5·485 oxygen. This oxide possesses acid properties*.

Native Caustic Lime†.—This substance was discovered in August 1815, by Dr. Giovacchivo Taddei, in Tuscany, deposited by the water of the ancient bath of Santa Gonda, which is situated in a Laguna, in a field near the mountains of Cigoli and San Miniato, on the high road to Pria. A portion of it sent to England in a bottle filled with water, and examined by Mr. Faraday of the Royal Institution, was found to consist of

	Grains.
Lime	82·424
Silex	10·57
Iron	2·82
Alumina	1·32
Loss	2·846
	100·000

Sir Humphrey Davy conceives, that heat is the agent by which the lime is rendered soluble, and the strong solution it then forms enables it to act on the silica in the same manner as an alkaline solution. He thinks it must originate from volcanic fire acting on the lime-stone of which the Appennines are principally composed. This opinion, he considers, is supported by the number of hot springs in Tuscany, and many of those at the foot of the Appennines, disengaging considerable quantities of carbonic acid gas‡. M Gay-Lussac has ascertained, that pure lime crystallizes in regular six-sided prisms §.

ACIDS.—Every day's experience is adding something to our knowledge of this important and interesting class of substances.

Sulphuric Acid.—Dr. Thomson has found the specific gravity of this acid free from water at the temperature of 60°, to be 1·8777. The gravity of that containing nineteen per cent. of water, is 1·85; but were no condensation to take place, it

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[*] Vide *Afhandligar i Fysik, Kemi och Mineralogi*, vol. iv. p. 253, and *Annals of Philosophy*, vol. viii. p. 234.

[†] As the existence of calcium, the metallic basis of lime, has been fully proved, we conceive we are authorized in classing this substance with the metals, regarding it as an impure oxide of calcium.

[‡] *Journal of Science and the Arts*, vol. i. p. 262.

[§] *Repository*, vol. vi. p. 262.

would be 1·7109; a fact, Dr. Thomson remarks, which enables us to calculate the condensation in acid of every degree of strength. The greatest condensation takes place when one atom of acid combines with two atoms of water, forming an acid of the specific gravity of 1·780*. We refer our readers to the table of condensations which we have already laid before them†.

Sulphurous Acid.—M. Dobereiner has found, that this acid in its dry fuming state dissolves sulphur, forming with it a blue fluid, which he terms sulphate of sulphur. It converts nitric acid into nitrogen gas and nitrous acid; and with nitrous acid forms a new chemical compound.

Phosphoric Acid.—In our last *Retrospect* ‡, we noticed that Dr. Thomson had ascertained that 100 parts of phosphorus are combined with 123·37 of oxygen in phosphoric acid. Dulong has since stated the proportion of oxygen to be 124·8§; while Berzelius, from the results of two different kinds of experiments, conducted with great nicety, makes it 127·04 and 128·17||. We will not pretend to say which of these statements ought to be adopted; but the different results obtained by such experienced analysists prove the difficulties that still oppose the perfecting of analytical chemistry.

Phosphorous Acid.—Berzelius, by a new series of experiments, has fixed the following as the components of this acid:

Phosphorus	56·524	100·00
Oxygen	43·476	76·92[1]

a result that accords, in a remarkable degree, with the analysis of Sir H. Davy, which gave 100 of phosphorus and 76·5 of oxygen.

Hypophosphorous Acid.—This acid, the origin of which we have already noticed[2], is stated by Dulong to consist of

Phosphorus	72·75	100
Oxygen	27·25	37·44

but he conceives there is some reason for believing that it is a triple compound of oxygen, hydrogen, and phosphorus, forming a new kind of hydracid*. When concentrated, it is viscous, uncrystallizable, and strongly acid. It acts as a powerful deoxidant.

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* *Annals of Philosophy*, vol. viii. p. 235. † *Repository*, vol. vi. p. 344. ‡ *Ibid*, p. 26. § *Ibid*, p. 148. || *Ann. de Chimie et de Phys.* tome ii. p. 222. [1] *Ibid*, tome ii. p. 227.

[2] It is most readily prepared by putting phosphuret of barytes into distilled water; by the re-action of which, an insoluble phosphate is precipitated, and a soluble hypophosphite obtained; the latter of which, after being separated by the filter, is to be decomposed by an adequate addition of sulphuric acid. The acid solution of hypophosphorous acid which remains, may be concentrated by evaporation without any loss of acid.

Phosphatic Acid.—This term has been proposed by Dulong† for that of binary acid, which is formed by the slow combustion of phosphorus in the air; and in which he supposes phosphoric and phosphorous acids to be combined, like the elements of a salt.

Tartaric Acid.—M. Thevenin, in a dissertation presented to l'Ecole Spéciale de Pharmacie de Paris‡, has pointed out a new method of obtaining this acid, from the decomposition, in the first instance, of the supertartrate of potass, in the proportion of fourteen parts of the former to twelve of the latter, perfectly dry.

Rheumic Acid.—Mr. J. Henderson, surgeon, Lawton, has added a new acid to the vegetable acids before known, which he has denominated rheumic acid, from his having obtained it from the expressed juice of the rhubarb plant. When pure it is chrystallizable, the crystals being soluble in about two parts of water and slightly deliquescent; they somewhat resemble those of benzoic acid, but are less floculent, have not any aromatic odour, are more soluble, and of greater specific gravity. In order to shew in what particulars rheumic acid differs from the citric, oxalic, tartaric, and benzoic acids, which it resembles in some of its effects, Mr. Henderson examined its combinations with the alkalies and several of the metals. Rheumate of lead is an insoluble compound; and in noticing it, he observes, "I should conceive this (the acid) to be one of the best tests of lead existing in any fluid §."

Margaric Acid.—M. Chevreul, who first obtained this acid from the decomposition of soap of lard by means of muriatic acid, has examined it as obtained from the saponified fat of man, the sheep, the ox, and the bear‖. In all he found it in brilliant, white, insipid, nearly inodorous crystals, insoluble in water, but soluble in boiling alcohol in every proportion. When saturated with potass, it dissolves in boiling water; but, on cooling, the compound is reduced to potass and an insoluble submargarate. As obtained from different fats, however, margaric acid differs in the size of its crystals and their fusibility.

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* *Annales de Chimie et de Physique,* tome ii. p. 143. † *Ibid.*

‡ *Dissertation sur l'Acide Tartarique, et sur sa combinaison avec l'acide borique, &c. &c.* Par C. T. Thevenin, de Issoudun, Pharmacien Externe à l'Hôtel Dieu de Paris.

§ *Annals of Philosophy,* vol. viii. p. 247. It is to be regretted that Mr. Henderson has not designated the species of Rheum which he employed.

‖ *Annales de Chimie et de Physique,* tome ii. p. 356.

NEUTRAL SALTS.—Few of these, according to modern chemists, really contain the acids and alkalies from which they are formed. The muriates and fluates, says Sir H. Davy*, contain neither acids nor alkaline bases; and the same is asserted of the prussiates, by Gay-Lussac. The nitrates and sulphates cannot be made to yield the acids from which they are named, without the presence of bodies containing hydrogen. In the present state of the science, however, we must still regard the components of salts in the same light in which we have been accustomed to view them.

Sulphate of Magnesia.—An interesting account, by Dr. Holland, of the manufacture of this salt from pyrites and magnesian lime-stone, at Monte della Guardia, near Genoa, is contained in the Second Part of the *Philosophical Transactions* (p. 294.), lately published. There is nothing very remarkable in the process. The pyritic ore is roasted, and exposed to the action of the atmosphere; by which sulphuric acid is formed from the materials in the ore, which, attacking the iron, the copper; and the magnesian earth it contains, forms a triple sulphate, or rather a mixture of sulphate of iron and of magnesia; from which the metallic salts are separated by the addition of an adequate portion of magnesian lime-stone. The product is a pure sulphate of magnesia.

Magnesio-Sulphate of Soda.—Dr. John Murray † has demonstrated that the brine, or mother liquor of sea-water, contains this triple salt; which, Mr. T. Heales ‡ has stated, forms also the whole of that salt, formerly sold as Lymington Glauber salt; and the same writer conceives that it is contained in most of the mineral springs which have been stated to afford both sulphate of soda and sulphate of magnesia. This compound salt crystallizes in regular rhombs, occasionally truncated on some of the edges and angles; it contains less water of crystallization than either of the component sulphates; is less disagreeable in taste; and forms an excellent purgative §.

Triple Muriate of Gold.—The introduction of this substance into the Materia Medica, is due to Dr. Chrestien; but whatever may be its efficacy, much must depend on its proper preparation; and hence the importance of the experiments of M. Figuier on this subject, which we have already laid before our readers*.

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* *Journal of Science*, &c. vol. i. p. 287. † Ibid, vol. i. p. 294.

‡ *Philosophical Magazine*, vol. xlviii. p. 202.

§ We lately detected a considerable quantity of this salt, in a parcel of Epsom salts bought at Apothecaries' Hall.

Phosphates.—By an elaborate series of experiments, Professor Berzelius has endeavoured to fix the composition of these salts†. We do not conceive it necessary for our object to give the results of all these experiments, and will therefore confine to such only as have relation to medical science.

Phosphate of Soda.—The combination between phosphoric acid and soda is very imperfect. The crystals contain sixty-two per cent. of water of crystallization, which however is soon lost by their efflorescence. According to the Professor, 100 parts of the crystallized salt contain—

Phosphoric acid	20·33
Soda	17·67
Water	62·

Phosphate of Ammonia is stated by Berzelius as being very soluble, and of course crystallizing with difficulty, although regularly. If caustic ammonia be poured into a concentrated solution of this salt, a sub-phosphate is formed, which crystallizes readily, solidifying almost the whole of the water; but it decomposes by evaporation, the solution becoming neutral and even slightly acid.

Phosphate of Lime.—In our last *Retrospect* ‡ we stated, that Dr. Thomson had endeavoured to shew, that there are six phosphates with lime for a base, of which that contained in bones is the neutral phosphate. Berzelius, who doubts the accuracy of his experiments §, gives as the composition of the neutral phosphate—

Phosphoric acid	54·19
Lime	45·81

Hypo-phosphites.—These are a new set of salts discovered by Dulong, formed by the combination of the hypo-phosphorus acid|| with various bases. They are all extremely soluble; those with bases of potash, soda, and ammonia, dissolving in

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* *Repository,* vol. vi. p. 424.

† *Memoire sur la Composition des Acides Phosphoriques et Phosphoreux, et sur leurs Combinaisons avec les bases salifiables.* Vide *Annales de Chimie et de Physique,* tome ii. p. 151.

‡ *Repository,* vol. vi. p. 26.

§ His words are, "L'on dirait, à juger d'après la courte annonce que M. Thomson vient de donner de son travail, qu'il y a employé plus de calcul que d'experiences."

|| *Journal of Science, &c.* vol. i. p. 287.

every proportion, even in highly rectified alcohol. Hypo-phosphate of potash is also much more deliquescent than muriate of lime. They all absorb slowly the oxygen of the air, becoming acid phosphates, and are decomposed by heat.

Mineral Waters.—On this part of our subject we have little more to do than to refer our readers to Dr. Walker's paper on the mineral waters of Yorkshire*; and to Dr. E. G. Jones's analysis of those of Spa †.

The following results of an analysis of the mineral water of Caversham, Berkshire, which have been supposed to possess medicinal properties, are given on the authority of an anonymous correspondent in the *Annals of Philosophy* (vol. viii. p. 123). The contents of 300 cubic inches of this water are stated to be 37 cubic inches of gases, and 43 grains of solid matters; viz.

Carbonic acid gas	33	cubic inches.
Sulphuretted hydrogen gas.....	4	
	37	

Carbonate of soda................	10	grains.
Muriate of soda..................	6	
Carbonate of iron................	18	
Carbonate of lime................	9	
	43	

In the same Journal also (vol. viii. p. 3), an interesting account of an Aluminous Chalybeate Spring, at Fountain Hall, in East Lothian, Scotland, has been published by Thomas Lander Dick, Esq. This spring appears to be supplied by an old coal waste, and rises in the very spot where a shaft was sunk above sixty years ago, and afterwards filled up with rubbish. Its taste is powerfully astringent and acidulous; and when evaporated to dryness, it leaves a viscid black residuum, which may be employed as a pigment in the same manner as Indian ink. The chemical analysis of the water demonstrated that its active ingredients are iron and alumina, in combination with sulphuric acid; properties which are, with much probability, supposed to be derived from the iron pyrites of the coal field, whence it originates. Its medicinal properties, as its ingredients indicate, are tonic.

This spring ebbs and flows, or varies very considerably in the quantity of the water it discharges. These alternations, Mr. Dick supposes, are owing "to a body of water in the coal wastes being balanced between a column of air at their extremity, and the atmospheric air at the mouth of the well; the variations in the weight and pressure of the latter being the origin of the reciprocations in the discharge."

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* *Repository*, vol. vi. p. 177.

† *Med. Chirurg. Trans.* vol. viii. p. 1., and *Repoitory*, vol. vi. p. 428.

VEGETABLE CHEMISTRY. — An extended classification of the immediate principles of vegetables has been attempted by M. Desvaux. He points out the distinction between *products* and *principles;* regarding, as coming under the first title, those substances which vegetables naturally furnish, such as gums, resins, and gum-resins: and under the second, those which are the products of analysis. He arranges the whole under three general heads:—1°. according as they are common to animals and minerals, as well as vegetables; 2°. according as they are common to animals and vegetables; and 3°. as they are peculiar to vegetables*.

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* The following are the heads of this arrangement:

CLASS I. — PRINCIPLES COMMON TO VEGETABLES, TO ANIMALS, AND TO MINERALS.

Order 1. *Oxides.*—Lime, potass, silex, alumina, oxide of iron, oxide of manganese.

Order 2. *Combustibles not metallic.*—Sulphur.

Order 3. *Salts.*—Acetates of potass, — of alumina, — of lime; carbonate of lime; sub-carbonates of lime, of magnesia, of potass, of soda; nitrate of lime, fungate of potass, gallate of tannin, hydriodate of potass, kinate of lime, malates of alumina, of lime, of potass, of oxide of potass, of magnesia; mellitate of alumina, moroxate of lime, muriates of ammonia, of lime, of potass, of magnesia, of soda; nitrates of lime, of magnesia, of potass; super-oxalates of potass, of lime; phosphates of lime, of magnesia, of potass; ammoniaco magnesian phosphates, sub-phosphates of lime, of magnesia, of potass; sulphates of potass, of lime; super-tartrates of potass, of lime.

Order 4. *Water.*

CLASS II.—SUBSTANCES COMMON TO VEGETABLES AND TO ANIMALS.

Order 1. *Compounds of Carbon, Hydrogen, Oxygen, and Azote.*

Genus 1st. gluten; 2d, vegetable fibrin; 3d, vegetable albumen; 4th, adipocire; 5th, vegetable gelatin; 6th, osmazom (*agaricus compestris*).

Sugar.—M. Kirchoff, who some years ago discovered a method of changing fecula into sugar, has brought forward proofs*, that the formation of this substance which is supposed to take place in germinating seeds, is not effected in the seeds whilst germinating; the process of germination merely giving the gluten the power of changing the fecula of the grains into sugar; while the change, which thus depends on the action of the gluten, he asserts, is altogether a chemical process that does not take place until the germination is checked, and the temperature raised to above 40° (Reaum.) This theory is in direct variance with the opinions of Dr. Thomson and the botanical chemists; and although we admit that the farina of seeds is not a homogeneous substance, but consists of parts which may not all be equally susceptible of being changed into sugar, yet, as all vegetable products are resolveable into carbon, hydrogen, and oxygen, and the proportion of carbon is decidedly diminished by germination, we hesitate to abandon that explanation which we have hitherto regarded as conclusive. In the sugar-cane and the other gramina, a considerable quantity of saccharine matter is present in the juices of the stem before the plant flowers; but disappears on the formation of the seed. Does not this appear to depend on the great quantity of carbon which the flower always evolves? One circumstance however occurs to us, which seems rather to support

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CLASS III.—SUBSTANCES PECULIAR TO VEGETABLES.

Order 1. *Compounds of Carbon, Hydrogen, Oxygen, and Azote.*
Genus 1st, ferment; 2d, narcotine; 3d, crystallinite; 4th, hematine.

Order 2. *Compounds of Carbon, Hydrogen and Oxygen in excess.*
Genus 1st. Acids.

Order 3. *Substances with Carbon and Hydrogen, and Oxygen, in the proportions contained in Water.*
Genus 1st, lignite; 2d, feculite; 3d, saccharine matter; 4th, gemmite; 5th, amarinite; 6th, polychronite.
Doubtful Genera.—*Genus* 1st, tannin; 2d, extract.

Order 4. *Compounds of Carbon, Oxygen, and Hydrogen; the Hydrogen being in excess.*
Genus 1st, gluine (bird lime); 2d, cire (vegetable wax); 3d, oil; 4th, scillitine; 5th, aromite; 6th, resinite; 7th, bitter resin; 8th, caoutchone; 9th, camphor; 10th, olivile; 11th, picrotoxine.—
Vide *Journal de Pharmacie, &c.* Oct. 1816.

* *Scherer's Journal,* vol. iv. p. 81; *Journal de Pharmacie,* Juin 1816; and *Repository,* vol. vi.

Kirchoff's theory, although it is not adverted to by its author. We refer to the change into saccharine matter effected on the fecula of the potatoe by the heat necessary for cooking it after the tuber has been exposed to frost.

Cinchona.—We have already noticed the experiments of *M. Laubert* on the treatment of cinchona *condaminea* with sulphuric ether[*]; but as these experiments are incomplete, we refrain from giving any opinion on the nature of the results he obtained.

Galls.—The mucous matter contained in galls, renders ink apt to become mouldy and thick. To remove this, Van Mons proposes to infuse the galls coarsely powdered in vinegar for two or three days, in a retort closed with a piece of paper, and then to strain the infusion. The residue, after being well washed in cold water, is next to be infused in pure water; and both infusions being mixed, the mixture is to be heated for an instant, and after subsiding for twenty-four hours, to be filtered. He conceives the acid of the vinegar is combined as a mucous kind of acetate with the mucilaginous matter, and precipitates it. The vinegar loses much of its acerbity during this process[†].

Garlic.—From an analysis of Bouillon la Grange, the active properties of garlic seem to depend on a very acrid volatile oil, which is combined with sulphur, a small quantity of fecula, some albumen, and a saccharine matter[‡].

ANIMAL CHEMISTRY.—As nothing is learnt by the reduction of substances to their elements by means of destructive analysis; and as we may justly inquire, what are we taught by knowing, that carbon, oxygen, hydrogen, and azote, are the ultimate principles of the most virulent poisons, and the mildest and most nutritive secretions; it is of importance to ascertain the more immediate principles, without referring to their ultimate components.

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[*] *Journal de Pharmacie,* &c. Juillet 1816, and *Repository,* vol. vi. p. 251.

[†] In order to apply this infusion in the manufacture of ink, Van Mons directs that gum and sugar be added to it; and when they are dissolved, the whole is to be once more passed through a sieve. The oxide or red sulphate of iron is then to be added; but neither the acidulated nor oxidulated sulphate ought to be used. The ink thus made is to be kept in a stone bottle, stopped with a paper stopper. It will be perceived, that this formula is both obscure and imperfect, no quantities being ordered. *Philosophical Magazine,* vol. xlviii. p. 145.

[‡] *Journal de Pharmacie,* Aout 1816, and *Repository,* vol. vi. p. 337.

FAT.—Chevreul continues his remarks on this subject. In a sixth memoir[*] he has given the results of his examination of the fat of man, of the sheep, the ox, the goose, and some other animals.

Human fat is coloured and inodorous. It is perfectly fluid at 40° (centig.) but concretes into a mass, consisting of a solid white matter and a yellow oil, at 17_0; the fluidity however varies according to the proportions of *elaine*[†] and *stearine*[‡] which it contains. One hundred parts of boiling alcohol, of a specific gravity of 0·821, dissolve 2·48 of this fat. Like lard, it can be converted into soap (saponifie), and a sweet principle, without the contact of air; and the soap, although less fusible than the fat, yet is soluble in every proportion in boiling alcohol of 0·821 of specific gravity; the solution containing margaric acid (margarine) and oleic acid, or rather, if the saponification has been produced by potass, sub-margarate of potass, oleic acid, and a sweet principle. One hundred parts of boiling alcohol dissolves 21·50 of the stearine of human fat.

Mutton fat is white, and nearly inodorous when fresh; but acquires, when exposed to the air, a slight smell of tallow. One hundred parts of boiling alcohol dissolve 2·26 of it, and 16·07 of the stearine obtained from it. In other respects its properties resemble those of human fat.

Beef fat is of a pale yellow colour, and slightly odorous; one hundred parts of boiling alcohol dissolve 2·52 of it, and 15·48 of its stearine, which crystallizes in minute stars, and is somewhat semi-transparent.

Goose fat is of a light-yellow colour, and has an agreeable odour; one hundred parts of boiling alcohol dissolve 36·00 of its stearine; the density of its elaine is 0·929.

Chevreul is of opinion, that colour and odour are not essential principles of fats, as they can be obtained perfectly colourless and nearly inodorous.

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[*] *Lu à l'Académie des Sciences le* 26 *Août* 1816.—Vide *Annales de Chimie et de Physique*, tome ii. p. 339.

[†] Derived from ελαιν, oil; a term imposed by Chevreul to designiate pure animal oil.

[‡] Derived from ϛεαρ, suet; the solid principle of fat. When fat is treated with alcohol of 0·791 specific gravity, it is separated into *stearine* and *elaine*, the former of which is a crystallizable solid of a very beautiful white, inodorous, or nearly so, insipid, and not at all affecting the colour of litmus; the latter is a fluid nearly colourless and inodorous, and having a specific gravity of from 0·913 to 929.

Osmazom.—This animal matter[*], which received its denomination from Thenard, has lately been regarded as the common "form of excretory matter, the counterpart of bile[†]." It can be extracted from animal matters by alcohol of a specific gravity of 791; the osmazom of the extract being comparatively more or less pure as the animal matter contains more or less of fat and gelatine. It has some analogy to urea, and the soluble matter of cantharides[‡].

The abdominal viscera contain a larger quantity of osmazom than the lungs, and more than the true skin of the back; and the heart and muscles of volition more than the cellular substance. Dried blood taken from the vena portarum gave ten per cent.; from the vena cava, eight; and from the left cavity of the heart, only five[§]. Osmazom seems to develope itself from albumen; and what has generally been considered as mucus, may be regarded as a combination of albumen, gelatine, and osmazom; but it has not been ascertained whether the true mucus of the mucous membranes be of this nature. The paper of Professor Authenreith, the title of which we have given below, and from which these facts have been extracted, is deserving of the most attentive perusal.

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[*] Osmazom, when concentrated, is of a brown colour, has a strong taste and smell, is soluble in water and alcohol, and resembles gelatino-resinous extract.

[†] Vide *Chemie thierischer Stoffe.—Tübinger Blatter für Naturwissenschaften and Arzneykunde; herausgegeben von* J. H. F. v. Authenrieth, and J. G. F. v. Bohnenberger. Tübingen, 1815; for an abridgment of which, vide *Edinburgh Medical and Surgical Journal,* vol. xii. p. 473.

[‡] On this analogy, Dr. Gsell, a pupil of Professor Authenrieth, has formed the opinion, "that when extract of cantharides is given to an animal, the quantity of urea must be increased in its urine," and excreted with the extract of cantharides which was swallowed; "and the stronger attraction of osmazom to the kidneys for this purpose, and its conversion into urea, must diminish its quantity in the rest of its body." But notwithstanding this increased excretion of urea, he supposes (a supposition by the bye somewhat paradoxical) that the general quantity of osmazom in the body is augmented by the organic decomposition produced by the excitement produced by taking the cantharides.

[§] These results were obtained from the experiments of Dr. Wienholt, a pupil also of Professor Authenreith, published in an inaugural essay, *De Analysi Organorum Corporis Humani,* &c. Tübingen 1815. — Vide *Edinburgh Medical and Surgical Journal,* vol. xii. p. 483.

Urinary Calculus.—Mr. J. T. Cooper has published the analysis of a calculus which consisted chiefly of carbonate of lime, with a trace of phosphate of lime and oxide of iron. It was dissolved in the bladder, by injecting into that viscus a very dilute solution of muriatic acid.

In closing our notices on this branch of our subject, we have only to mention Mr. Accum's Treatise on Tests*, as a work of great utility to the chemical student; Dr. Maculloch's Remarks on Wine-making†; a work by M. Caventou, intitled "*Nouvelle Nomenclature Chimique d'apres la Classification adoptée par M. Thenard;*" and a French translation of Dr. John's work on Animal Chemistry, by M. Stephane Robinet.

NATURAL HISTORY.

THE attention which has been given, within these few years, to the study of Comparative Anatomy and of Animal Chemistry, has excited a new and more lively interest in this branch of Science. Much, however, has not been done in the period embraced by our *Retrospect.*

Spiders.—Mr. M. W. Carolan, a correspondent of the Annals of Philosophy, has attempted to explain the method by which spiders extend their threads between very distant points, without any visible means of accomplishing it, by asserting that these insects, although unprovided with wings, yet have the power of flying. "Some years ago," says he, "while sitting by the side of a plantation, I observed a pretty large spider crawl up to the top of one of the highest stalks of a small bush of rushes, and, after resting a short time, it took its flight almost straight upwards, and alighted on a leaf at the end of one of the branches of a tree, about nine or ten feet above the place where it set off‡." He conceives that their flight may be assisted by their legs acting laterally, in a vibratory manner, like wings, or oars; while those behind, being stretched out, may serve, instead of a tail, to direct their course. He also suggests the idea of their being provided with an air bladder, similar to that of fishes, which they may have the power of inflating with a gas specifically lighter than atmospherical air. Except for the statement of what he saw, these observations would scarcely deserve any attention.

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* *A Practical Essay on Chemical Re-agents, illustrated by a Series of Experiments,* by Frederick Accum, London, 1816.

† *Remarks on the Art of Making Wine, with suggestions for the application of its Principles to the improvement of Domestic Wine,* London, 1816.

‡ *Annals of Philosophy,* vol. viii. p 35.

Trigonocephali.—An interesting description of a species of this class of serpents, by M. Moreau de Jonnes, was read to the Royal Institute of France by Cuvier, in September last. It is known only in Martinique and St. Lucie, and named *Grande Vipere Feu de Lance* by the inhabitants. Its colour is yellowish red, and not unlike that of a withered leaf. Its head is flat, and triangular from the lateral projections of the jaws at their articulation. The *museau* is flat above, truncated, and terminated by a vertical scale, covering the fore part of the upper jaw, and so bisected as to form a passage, through which the tongue may be darted without opening the mouth. The eyes are large and contiguous, having a vertical pupil, and an iris resembling that of birds of night. The mouth is very large, and capable of being opened so as to form an angle of eighty-five degrees. The tongue is narrow, retractile, sheathed at its root, and terminated by two blackish filaments. The upper jaw is furnished with fifteen, and the under with eight or ten small white teeth, sharp, slender, and hooked, which are not used for mastication, but merely to seize the prey, as this is swallowed entire. The fangs, through which the poison is ejected, are moveable, situated on each side of the upper jaw, and lying in general horizontal, but strongly erected when the serpent seizes it prey.

This serpent has the power of climbing up high trees, where it lies coiled up in a rising spiral of four circles, waiting for its prey, on which it can spring to the distance of five or six feet. It has also the power of balancing itself nearly erect upon its tail. Its fecundity is great, the young amounting to from sixty to seventy, which are fierce and alert from their birth: but Nature has secured mankind against the danger of its too great multiplication, by providing an enemy of its own class of reptiles, which is perfectly innocuous to man. The bite of the *Vipere Feu de Lance* is said to prove fatal, when the wounds made by the fangs are simple punctures; but not when lacerated; owing, we should suppose, to the poison being more easily washed out in the latter case. Ammonia, the Euphorbia *pilulifera*, and moxa, are the remedies relied on for its cure.

Ova.—According to the observations of Sir Everard Home*, those of the frog differ from those of snakes and lacerta in general, in having no yelks; neither do they contain oil; but consist of a substance, as Mr. Brande ascertained, intermediate between albumen and gelatine. The ova of the snail have no yelks and contain no oil, but consist of albumen inclosed in a strong membraneous covering; those of the lobster resemble them in having yelks and containing no oil; but the albumen is mixed with a dark olive-coloured substance, which Mr. Hatchett ascertained to be the colouring matter of the shell, and which becomes red when the albumen is coagulated by heat, or when the spawn is put into mineral acids, or a solution of caustic potash*. The ova of the salmon and the pike, although they have no yelk, and consist chiefly of albumen, yet contain also a small portion of oil; while those of the cartilaginous fishes, the lizard, and the snake have yelks like that of the hen in form and composition; but in the shark tribe, the albuminous part resembles the spawn of the frog.

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* *Phil. Trans.* 1816, Part ii. p. 301.

Tadpole and Frog.—Sir E. Home has made some interesting observations on the tadpole, and the circumstances connected with its change to the frog state†. He found, that very soon after it leaves the ovum, it has ten filamentous gills projecting from each side of the neck, which drop off as soon as the abdomen begins to enlarge. Both hind and fore legs appear to be formed at the same time; but the hinder only are visible and protruded until after the lungs are completely formed, and so much of the contents of the intestines voided, "as to give a taper form to the lower part of the body." The fore legs are then disengaged, the mouth enlarges, and in twenty-one days afterwards the tail drops off, leaving the projecting root, which soon disappears, while the appendages become more opaque. Before the tail thus drops off, the intestines, which are longer than in any other animal, undergo a change, being contracted into a corrugated canal one fourth the original length; the stomach also becomes a distinct cavity, and both this and the intestines which are empty, are embedded in fat, filling every part of the abdomen not occupied by the liver, which is large; but after the tail and projecting root has disappeared, no fat whatever is found in the abdomen. The use of this store of fat has been already explained.

Leech.—In our last *Retrospect* we noticed the interesting account of the medicinal leech, by Dr. J. Rawlins Johnson. The same author lately read a paper to the Royal Society, on the mode of propagation of the hirudo *vulgaris*, a species which is found under stones in slow running rivulets. Its length is an inch and a half; its colour brown, with a black line running the whole length of the body, both on the back and belly. It is hermaphrodite, copulating like the snail, and producing its ova in capsules. The young leave the egg in six weeks, but shew symptoms of vitality three weeks before. The greatest number of capsules protruded by one leech, are twelve; which, supposing one-third only of the eggs to be hatched, produce thirty-six young; but the hirudines destroy each other's capsules. The young leech, when first hatched, is colourless, and remains so for some months.

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* When this substance is applied to the air and light on paper or linen, it becomes red in the course of a few minutes; but in a few days changes to an ochraceous hue, and becomes a permanent stain that cannot be effaced by boiling in water and washing with soap.

† Vide *Phil. Trans.*, 1816, Part ii. p. 302.

That the leech tribe may be regarded as prognosticators of the weather, has been long known; but no rules have been given for consulting this species of weather glass. The following are detailed by Mr. James Stockton*, as referring to the horse-leech. When kept in a glass two-thirds filled with water, and the mouth of which is covered with a linen rag, the leech in fair and frosty weather lies at the bottom rolled up and motionless; but prior to rain or snow it creeps up to the top, and remains some time there if the rain will be heavy or continued: but quickly descends if a slight shower only be threatened. When wind is approaching, it darts about with amazing celerity; and if a thunder-storm be not very distant, it starts, as if convulsed, at the top or bottom of the glass.

Torpedo.—A series of attentive observations and well-conducted experiments by Mr. Todd, on this fish as found at the Cape of Good Hope, have led to some new conclusions regarding the action of the electrical apparatus with which it is endowed†. The Cape torpedo is smaller than that generally found in the northern hemisphere, being seldom more than eight inches long, and five broad. The upper surface is hazel grey, reddish brown or purple; the under, white, greyish white, or white with black patches. The electrical organs when separated, and suspended by their extremities, appear to be of a cylindrical form, and are under the influence of the muscles of the semilunar cartilages of the lateral fins. They are also supplied by a large proportion of nerves. Mr. Todd concludes from his experiments that the electrical discharge of this animal is a vital action, and under the power of volition; that the frequent discharge is hurtful to the animal; and, if continued, proves fatal; that, the nerves being cut, the power of giving the shock is lost; but the animal is more vivacious, and lives longer: that one organ is sufficient to produce the shock, and the perfect state of all the nerves is not requisite; but, upon the whole, there is an intimate relation between the electrical organs and the nervous system of the torpedo, both as to structure and functions.

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* *Annals of Philosophy*, vol. viii. p. 450.

† *Phil. Trans.*, 1816, Part i. p. 120.

BOTANY.

There cannot be a stronger proof of the excellence of the Linnæan System than its resisting the various attempts that have been made to alter and improve it. This is no reason, however, for supposing that it is incapable of being improved; and, therefore, we are open to any rational suggestions that may tend to such an effect. Of this character we regard that of M. Claerville*. This author attributes many of the defects of the Linnæan arrangement to its justly celebrated author not counting the imperfect stamina and abortive germens; and he proposes, as a certain method of finding the true number of stamina, the regarding them as equal to the number of petals of a polypetalous, or of the divisions of a monopetalous corolla, or to their double. He sets aside altogether the classes Polygamia, Monadelphia, and Polyadelphia, and makes the Diadelphia, or papilonaceous plants, a subdivision of *Decandria Monogynia.* Of Monæcia and Diæcia he forms one class, under the name of Hetuothalmia; and subdivides it into, 1. solitary flowers; 2. androgynous flowers in a common envelope; and 3. flowers in catkins. He has also changed the name of the class Syngenesia to Solenandria (anthers forming a tube); and has altered the orders, dividing the class into 1. congregate flowers, and 2. segregate flowers.

M. Cassini has suggested the formation of a new order of plants, under the name *Boopideæ*, and placed it between the Synantheræ and the Dypsaceæ. The characters of the order are—1o. each tube of the corolla is marked by three simple nerves, one central, and two submarginal, which meet at the summit; 2°. the filaments of the stamens are united to the tube and the base of the limb of the corolla; while the anthers, which are five, and have not the prolongation of the apex characteristic of the Synantheræ, are united laterally at their inferior portion; 3°. the style undivided, smooth, and bearing a very small simple stigma; 4°. the seed, which is covered with a membranous coat, and has a fleshy albumen, fills the cavity of the fruit, and is attached near its point by a very small funis. The embryo is straight, cylindrical, and occupies the axis of the albumen. The nerves of the corolla, and partial union of the anthers, distinguish it from the Dypsaceæ.

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* Vide *Manuel d'Herborisation en Suisse et en Valais, redigé selon le Systême de Linni, &c.* Preface.

A new *moss* has been described by Mr. William Jackson Hooker*. It is allied to the genus *Splachnum;* but it differs in several particulars, sufficient to remove it from that genus. Mr. Hooker found it on the *Glacier du Rhine*, and near the *Hospice* on the Grimsel, at an elevation of near 5000 feet above the level of the sea. It has also been found by Mr. Schleicher on the mountains bordering on the lower part of Le Vallais; and Professor Schmidt, who has denominated it Tayloria *Splachnoides*, found it at Tind, in Tellemark, Christiansand. The most remarkable circumstance connected with it, is thus described by Mr. Hooker. "While examining my new discovery with the pocket lens, I observed that the teeth of the peristome which had lain compactly involute in pairs a little way within the mouth of the capsule, (forming a thickened ring or band,) were, by the warmth of my hand set in motion in a wonderful manner, every tooth writhing itself about with great rapidity, like a worm when suffering with acute pain. Nor did this movement cease till, by the continued application of heat, the capsule had become dry, was diminished in length, and the teeth were bent back over the edge of the capsule; but still variously twisted."

We have already given a description of the Alstenia *Teiformis*†, extracted from the Journal of the Sciences (vol. ii. p. 92); and to the same work we must refer our readers for that of a new species of Agave, which has been cultivated in the English green-houses for several years; but has not yet flowered. The plant described, flowered in the Duke of Litta's garden at Lainate, near Milan, and bore 1482 flowers, each an inch in depth, on an erect spike eight yards two inches high (Milanese measure).

In our last *Retrospect* we noticed an hypothesis which had been advanced regarding the upright growth of vegetables. This has been examined by Mr. Keith, who, in the paper which contains his objections ‡, has also stated sufficient reasons for rejecting the opinions of Mr. Knight, that gravity is the cause of the downward growth of the root. Mr. Campbell, the author of the hypothesis to which we have referred, contends that "it is the agency of resisted gravitation affecting the tender shoot, or perhaps the whole plant," which produces the upright growth; the shoots acquiring their vertical position "not by any recurvature at the top, but by a general and progressive movement of the whole," by the agency of a "buoy-

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[*] *Journ. of Science*, vol. ii. p. 144. † *Repository*, vol. vi. p. 413.
‡ *Annals of Philosophy*, vol. viii. p. 327.

ant principle bearing up the plant in which it is enclosed, as the hydrogen gas bears and presses upwards the body of a balloon;" and this buoyant principle he finds in evaporation. The first part of this hypothesis Mr. Keith very satisfactorily refutes by a detail of successive observations made on young shoots; from which it appears that "a series of progressive corrections does actually take place in the elevation of the pendant shoot," before it maintains its vertical position, as Mr. Knight has explained in his hypothesis; which supposes the phenomena to be ascribed to the agency of direct gravity, causing the sap to accumulate on the under side of a deflected germen, in consequence of which the under side elongates and the point turns up. With regard to evaporation elevating the stem, Mr. Keith contends, that even admitting its power, it cannot operate upon the plumelet, which takes an upright direction while yet under the ground; and the fact that, in very hot weather when the evaporation is more abundant, the shoots droop, is in direct contradiction to Mr. Campbell's ideas. Many of the other phenomena of vegetation equally refute the hypothesis; and Mr. Keith very properly observes, that it is not very probable that the elevation of the pendant shoot and the upright growth of plants will ever be "accounted for upon principles that are merely either chemical or mechanical."

The opinion of Mr. Knight on the nutritive functions of detached leaves of plants having been already noticed by us *, we have only further, on this part of our subject, to direct the attention of our readers to the use which M. Leopold de Buch has made of the geographical distribution of plants, in pointing out the limits of perpetual snow in the north†.

MATERIA MEDICA AND THERAPEUTICS.

THE character of the late Doctor Adair Crawford ranks deservedly high as an experimental philosopher; and although the rapid advancement of chemical science, and its elucidation of many of the functions of the animal œconomy, since his time, have lessened the weight of some of his reasonings, yet his writings will always be regarded as valuable specimens of industry, ingenuity, and accurate observation. *An experi-*

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* *Repository,* vol. vi. p. 165.

† *Annales de Chimie et de Phys.* tom. ii. p. 183.

⁂ Among the books lately published on Botanical Science are the 14th and 15th parts of M. de Beauvois' *Flore;* the fourth part of Humboldt's *Species Plantarum; Phytographie Piémontaise,* par M. I. Lavy; a new edition of Smith's *Compendium Floræ Britanicæ;* and a *Flora Tonbrigiensis.*

mental Inquiry into the Effects of Tonics[*], left unpublished at his death, has been lately brought before the profession by his brother Dr. Alexander Crawford. It sets out with the supposition that the tone of the stomach coincides with the strength of the animal fibre, displayed by its cohesion and its power of resisting extension; and, therefore, that the value of different substances as tonics may be estimated by the physical increase of these powers, which portions of the stomach, even of a dead animal, receive by being kept in contact with them. Now, although we think the doctrines of vitality stand in the way of the full admission of these premises, as far as the mere application of the substances experimented with to dead animal matter is concerned, yet we conceive the conclusions of Dr. Crawford, regarding the degree of the tonic properties of different substances, drawn from experiments on living animals, are not to be neglected.

Dr. Crawford invented a very ingenious although simple machine to determine the strength and cohesion of similar portions of the animal stomach. His first experiments were made on vinous and spirituous liquors; and from these it appeared that the firmness, elasticity, and strength of the stomach of a living animal, "are encreased by introducing into it wine diluted to a certain extent;" but undiluted spirit of wine given in large quantities inflames the stomach and destroys the animal, without producing any increase of strength in the fibre: facts, which Dr. Crawford considers as demonstrative of the tonic power of wine and diluted spirits. He, nevertheless, admits that these substances principally act upon the nervous system, exciting the energy of the brain, and consequently "the activity of the vital principle." Opium and hemlock he found increase the strength of the stomach and intestines, and relax the skin in a living animal; and hence their importance in disease when judiciously administered: but henbane and belladonna do not sensibly increase the strength of the alimentary canal, and they act with less force upon the skin than opium and hemlock. Vegetable bitters, according to his experiments, "increase the strength of the intestines in the following order: Peruvian bark, galls, camomile flowers, gentian root, calumba root, cascarilla, myrrh, and serpentaria." Galls, however, as they constrict the intestine more than Peruvian bark, he conceives "act more forcibly as a tonic, although they have probably less power as a corroborant." Acids and alkalies diminish the cohesion of the fibre, while sea salt and the other neutral salts used in medicine increase it, and also add to its firmness and elasticity within certain limitations. The cohesion of the fibre is increased by some of the mercurial preparations used in medicine, as oxymuriate of mercury, and red precipitate; and tartar emetic, whilst it diminishes the cohesion of the skin, also increases that of the intestine. He ascribes the effects of the metallic salts chiefly to the oxygen they contain; but at the same time remarks, that pure air, "when combined with mercury, increases, and with silver diminishes the cohesion of the fibre."

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[*] *An Experimental Inquiry into the Effects of Tonics, and other Medicinal Substances, on the Cohesion of the Animal Fibre.* By the late Crawford Adair, M.D. F.R.S. 8vo. Lond. 1816.

In whatever point of view the experiments of Dr. Crawford may be regarded, his practical reasonings and deductions command our respect. In his conclusions he observes, that, notwithstanding the sympathetic changes which are produced in certain distant parts of the body, yet, as from his experiments, opposite effects are "produced upon the intestines and the skin by the same medicinal substances, it would seem that a change in the one is frequently associated with a contrary change in the other." Many facts observed in practice confirm this conclusion: thus, as Sydenham remarked, "in the beginning of fevers warm clothing and tepid fomentations applied to the skin will frequently remove vomiting and purging," owing to their relaxing the constricted skin and giving thereby tone to the relaxed stomach; and "a draught of cold water, by imparting tone to the stomach, will frequently relax the skin and excite perspiration." On the same principle he explains the operation of Peruvian bark, at the beginning of the fit of an intermittent, remarking, that it "possesses, in a very high degree, the power of producing changes in the stomach and skin, directly opposite to those which probably take place at the commencement of the paroxysm." This law of association certainly merits minute investigation; and it is probable, as Dr. Crawford conjectures, "that the changes in the skin are frequently associated with opposite changes in the lungs, as well as in the stomach and intestines."

Galvanism.—The employment of galvanism as a remedy in disease has been often suggested, but never fairly put in practice until some experiments with it, lately made by Dr. Wilson Philip, were undertaken*. Dr. Wilson considers that, although it is of little or no service in diseases of the sensorium, yet it is an important remedy in all affections occasioned by the diminution of nervous energy. In thirty cases of asthma every patient was relieved, and several permanently cured. In using it, he applied the negative wire from the galvanic battery to the pit of the stomach, and the positive wire to the nape of the neck, and kept them there from five minutes to a quarter of an hour, according to the relief obtained, suspending the application as soon as that was evident. The battery employed consisted of fourteen pair of four-inch copper and zinc plates; and the liquid with which the trough was charged was water with one twentieth of its weight of muriatic acid.

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* Dr. Philip read a paper on this subject to the Royal Society, on the 21st of November last.

Colchicum autumnale.—The specific effect of this medicine in relieving the local symptoms of the gout, in a manner closely resembling that of the Eau Medicinale, has received very considerable support from the experience of Sir Everard Home on his own person*.

Liquor Opii Sedativus.—The powerful sedative properties of this preparation of opium have been fully confirmed by the experience of a very considerable number of practitioners, who have been induced to prescribe it on the faith of our occasional remarks regarding it. We have made no experiments to determine to what part of the opium it owes its active properties; but, we have the authority of Mr. Battley for asserting, that the salt which *Derosne* regarded as the narcotic principle, does not possess any narcotic or sedative property whatever; and the other precipitates from opium are equally inert.

Stramonium.—That the knowledge of the efficacy of some valuable remedies is often confined to a few individuals, and is only extended by accident communicating the information to some one who has the inclination and the power of making it generally known, is much to be lamented. The power of the *extract of stramonium* in relieving severe pain, was communicated to Dr. Marcet, at the bedside of a patient labouring under sciatica, by a pupil; who stated, that it had been used by his father with singularly beneficial effects in painful diseases. On this hint, Dr. Marcet employed it, and finding it useful, he has investigated the subject, and laid the result of his observations before the profession, through the Medico-Chirurgical Society†. He employed it in fourteen cases of different diseases, and obtained the following results: In four cases of sciatica, decided benefit was obtained; and the efficacy of the "remedy was still more strongly marked in two cases of sciatica combined with syphilitic pains. It failed entirely in two instances of diseased hip joint," but produced considerable relief in a case of supposed disease of the spine, followed by paraplegia, and also in a case of acute uterine disease. In *tic douloureux*, it was of great and repeated utility, in one case; of doubtful benefit in another; "and in a third, it entirely failed." When it failed of affording relief, it produced the same deleterious effects as follow the use of the entire plant.

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* *Phil. Trans.* 1816. p. 262.

† Vide *Med. Chirg. Trans.* 1816, vol. vii. p. 551.

In exhibiting this extract, Dr. Marcet commences with doses of half a grain given three times a day, and in one case the dose was gradually increased to five and six grains. The extract prepared from the seeds* was found to be more useful than that obtained from the entire plant.

THEORY AND PRACTICE OF MEDICINE AND SURGERY.

THERE is good reason for congratulating the profession on the ample fund of valuable information of a practical nature respecting disease which the last six months have produced. Even the controversial papers of Dr. Pym† and Dr. Burnett‡, much as we reprobate the spirit which produced them, have not been altogether devoid of general utility, inasmuch as they exhibit facts illustrative of the nature of fever, modified by climate and other circumstances; and display the effects of very opposite methods of treatment. In this country, the only work exclusively on *fever*, which has appeared within the above-mentioned period, Dr. Armstrong's *Practical Illustrations of Typhus*, has placed the branch of the subject of which it treats, in a point of view that displays in a striking manner, the characteristics of the various modifications which typhoid fever assumes; and the practice which the indications in each variety particularly demand. As we have already given our opinion regarding the general merits of this work§, we will merely advert to the bold employment of the lancet, recommended in the early or congestive stage of the attacks; and as a further proof of the importance of this practice, even when the superficial vessels are giving out their contents and producing petechiæ, we direct the attention of our readers to the twenty-third of the Authenticated Cases||, in which fourteen ounces of blood were abstracted, under circumstances which required the employment of corroborants at the same moment that the vascular system was advantageously unloaded.

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* To prepare it, boil one pound of the seeds, well bruised, in three gallons of water down to one gallon; and after straining the decoction, again boil the seeds in one gallon more of water down to two quarts. Mix the decoctions together, and after the whole has stood for twelve hours, separate it from the fecula and oil, and evaporate in a water bath. The oil should be separated, as it does not appear to aid in any degree the efficacy of the extract; and is otherwise a troublesome adjunct.

† Vide *Repository*, vol. vi. p. 186. ‡ Ibid, p. 441.

§ Ibid, p. 380. || Ibid, p. 116.

As adding weight to the propriety of the free abstraction of blood in the remittent fever of warm climates, we may notice a paper on this subject by Dr. Robertson, in the *Annals of Philosophy*, (vol. v. p. 189,) who states it as his opinion, that it is a disease "of a highly phlogistic diathesis," even in its protracted state; and that the phenomena supervening "in these circumstances, evidently arise from the excessive action of the sanguiferous system of the brain;" which terminates in an accumulation of serum in the ventricles, producing the torpidity of the functions so remarkable in every case of remittent. With regard to the prognosis, he conceives the danger to be greatest when the fever assumes the quartan type. The yellowness of skin, he does not think, adds to the danger of the complaint; and as it does not appear from dissection that it depends on any organic disease of the liver, he ascribes it to an increased action both of the arterial and absorbent vessels of that organ. The marsh miasma, which is the exciting cause of the disease, produces it, in Dr. Robertson's opinion, by acting as a stimulant to the nervous system; the principal effects of which are manifested upon the brain through the medium of the circulation; and hence the increased excitement both of that organ and of those organs which sympathize with it, with the stomach, the liver, &c. and the entire system.

On this view of the disease, Mr. Robertson has founded his practice, which consists in diminishing the force of the circulation, and producing a more equal distribution of the fluids by derivation. Blood-letting, he conceives, to be of the first importance, provided the irritability of the system be not morbidly increased after it, either by diet, medicine, or regimen; and on this principle he condemns the exhibition of mercurial preparations, even as purgatives, after bleeding*. The same objection, although in an inferior degree, refers to antimonials; but after the force of the vessels has been diminished by bleeding, saline purgatives and other parts of the antiphlogistic treatment, these preparations are very useful auxiliaries in very small doses frequently repeated. He thinks emetics peculiarly hurtful, as determining to the head; but next to blood-letting, purgatives, so as to keep up a gentle diarrhœa, are the most beneficial remedies at the commencement of remittents.

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* The great quantity of blood that may be abstracted, without the dread of debility limiting it, may be computed from the following fact: "I remember," says Dr. Robertson, "having a patient, (Serjeant Dogherty of the 10th Foot,) who, by accident, (the bursting of the temporal artery,) lost at once eight pounds of blood, besides the evacuations in the course of the disease, and he was able to return to his duty in about ten days." There must be some mistake in quantity.

The advantages of the depletory treatment in fever has also received considerable support from eight cases related by Mr. Allan in the *Edinburgh Journal*, (vol. xii. p. 257.)

On the continent, and particularly in France, it is plain to observe a more accurate view of fever is gradually occupying the minds of practitioners, and necessarily improving the treatment. "The best method then of checking the violence of the symptoms," says M. Broussais, speaking of typhus, in a work which reviews the leading opinions on medical practice in France*, "is to treat them" (typhoid fevers) "in the same manner as *gastric* fevers, by emollients and acids; to proscribe food; and to have recourse to general and local blood-letting, if the visceral irritation be so considerable as to induce any apprehension of disorganization."

A medical report of a Committee appointed by the Madras government to inquire into the causes of an epidemic fever which prevailed in some provinces of the Indian peninsula†, lately published, has shed considerable light upon the remote causes of intermittent and remittent fever. Among these causes, salt marshes are enumerated; in the neighbourhood of which the fever is said to have raged with uncommon severity, in the months of February, March, and April; but the mode in which these are supposed to have produced the effects attributed to them, is not clearly pointed out. More than the usual quantity of rain appears to have fallen during the moonsoons, by which floods were produced in the low grounds which were rapidly exhaled by a hot sun; and as the putrefactive process is not so likely to have been very active during the first period of the returning hot weather, in which these epidemics broke out, it is probable that more is to be attributed to the irritable state of the body itself, exposed, after being relaxed by preceding heat, to the action of cold and damp, than to the operation of marsh miasmata; and this, we conceive, is as generally the origin of the remittents of warm climates as any which has been pointed out. The Vytian, or Tamool medical practitioners ascribed the fever to the superabundance of moisture in the earth and air, and the water they drank holding unwholesome solutions: and although much importance is not to be given to their opinions, yet, in the instance under consideration, having no theory to sway them, they seem to have been properly led, from observation, to ascribe the evil to those natural and obvious causes. Depletion was not employed in the treatment of these epidemics, which in some degree may account for the great mortality that ensued.

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* *Examin de la Doctrine Médicale généralement adoptée*, &c. par F. I. V. Broussais, &c. &c. 8vo. Paris, 1816.

† *Medical, Geographical, and Agricultural Report of a Committee appointed by the Madras Government to inquire into the Causes of the Epidemic Fever which prevailed in the Provinces of Coimbatore, Madura, Dindigul, and Tinnivelly, during the Years* 1809, 1810, *and* 1811: of which Dr. W. Ainslie *was President*; Mr. A. Smith, *Second Member*; and Dr. M. Christy, *Third Member*. 8vo. London, 1816.

Some cases by Dr. Macabe* are calculated to give a degree of support to the plan of treating *Puerperal Fever* with spirit of turpentine, as proposed by Dr. Brennan; but the practice has still too much of an empirical character to insure the general confidence of the profession: and the depleting plan is still that which is more judiciously relied upon.

The necessity of very active blood-letting in the early stage of *Cynanche Laryngea* is well illustrated by a case which we have recorded, as described by Mr. W. Robarts, of Burnham †; while the advantageous effects of the same remedy in Dysentery, as long as the stools continue tinged with blood, if the pulse does not flag, has been well enforced by Dr. Somers, from his own practice, and that generally adopted in the British army whilst it was on the Spanish peninsula‡.

On the subject of *Gout*, as our particular opinions regarding Dr. Scudamore's work are already before our readers§, we have now merely to remark, that it is much to be lamented the practice in this disease is not yet settled on rational principles. Dr. Balfour, whose mode of treating rheumatism by compression is already known to the profession, has lately proposed to cure gout, also, by compression and percussion ||. He conceives that the fever and dyspeptic symptoms attending gout are altogether sympathetic of the local inflammation and pain of the extremities; and that they yield when the local affection abates. He explains the modus operandi of compression and percussion, by supposing that, both in gout and in rheumatism, their beneficial effects depend on their promoting circulation in the vessels of the affected parts: and although he admits the efficacy of purgatives in acute gout, yet he refers the benefit solely to the excitation they occasion in the whole system, and particularly in in the absorbents.

The opinions of practitioners on the nature of that species

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* Vide *Repository*, vol. vi. p. 468. † *Ibid*, p. 114.

‡ Vide *Med. Suggestions, &c.* by E. S. Somers, M.D. 8vo. Lond. 1816.

§ Vide *Repository*, vol. vi. p. 290.

|| *Edin. Med. and Surg. Journal*, vol. xii. p. 432.

of *purulent ophthalmia* which is supposed to have been imported into this country from Egypt, appears to be likely to undergo some change. From experiments made by Mr. Mackesy, Surgeon of the 62d Regiment, there is much reason for supposing that it has been improperly regarded as contagious. He applied folds of linen, impregnated with matter discharged from the eyes of patients in the fully formed stage of ophthalmia, to his own eyes, and even admitted some of the matter to get between the eyelids; yet the disease was not produced*. On this experiment we would observe, that although it is apparently conclusive, yet it is liable to the objection, that Mr. Mackesy was in perfect health; and we believe that a certain predisposition of habit is requisite, before any contagious virus, even the most energetic, can produce its specific morbid effects.

Dr. Wilson Philip has directed the attention of practitioners to a particular species of *phthisis*†, which although not unfrequent, yet, has not before been particularly distinguished from the other species. It is chiefly characterized in the early stage, by a deranged state of the digestive organs, by flatulent irregular bowels, furred tongue, impaired appetite, the fæces unnatural, "and the epigastric region more or less full, and tender on pressure." Purulent and bloody expectoration is not uncommon; but the hectic fever is hardly ever so completely formed as in other species of phthisis; and the emaciation is seldom so rapid. The symptoms of the latter stages more nearly resemble ordinary phthisis, except that ascites sometimes supervenes, which never occurs in other species of the disease. The causes assigned by Dr. Philip as producing dyspeptic phthisis, are those which generally occasion dyspepsia; the affection of the lungs being generally secondary; while dissection displays traces of disease in the liver, the spleen, and the lungs, although not the same appearances as in other cases of phthisis, that part of them only next the diseased portion of the liver being affected. In the treatment of this disease, as the pulmonary affection is merely symptomatic at first, Dr. Philip recommends the blue pill, or calomel in small doses, with Epsom salts and a bitter, to be exhibited on Mr. Abernethy's plan, with the view of improving the hepatic secretions, the healthy action of which being restored, the cough dissappears. In the latter stages the mercurial plan is required to be very considerably modified. One grain only of the blue pill combined with some mild stomachic, is now recommended to be given, by Dr. Philip, two or three times in the course of twenty-four hours, and continued until the tenderness of the epigastrium abates, and the fæces assume their natural appearance. By this alterative plan, with the aid of cathartics and blisters, the pulmonary symptoms gradually abate, as those of dyspepsia disappear.

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* *Edin. Med. and Surg. Journ.* vol. xii. p. 411.

† Vide *Medico-Chirurgical Transactions*, vol. vii. p. 499.

In a very valuable paper on *Tetanus*, published in the Medico-Chirurgical Transactions, (vol. vii. p. 448), Dr. Dickson has brought forward his testimony in favour of the free use of the lancet and the exhibition of purgatives in this formidable complaint; and the propriety of the practice is strongly illustrated by two cases, which terminated successfully under the management of Dr. Cross*. The great infrequency of tetanus in the Army and Navy, of late, in the West Indies, is ascribed by Dr. Dickson "to the improvements in the Medical and Surgical treatment of wounds; in cleanliness and ventilation, avoiding at the same time exposure to currents of cold air, or sudden changes of temperature; in fine, to superior comforts, diet, and accommodation; but particularly to the greater attention paid to the state of the bowels."

The successful result of the case of *Chorea* treated by extract of belladonna in combination with purgatives, as related by Mr. Kerrison†, is sufficient to direct the practitioner to the advantages of this method of combining cathartics with sedatives in almost all convulsive affections, where the primary seat of the irritation is the primæ viæ. The beneficial effects of the same remedy in *Hooping cough* as pointed out by Meglin, of Colmar, and Dr. Rason of Caln‡, we have lately witnessed in our own practice; and we have found it not less serviceable in other spasmodic coughs, after clearing the bowels, and opening the skin. Much, however, depends on the goodness of the extract; and we are much disposed to ascribe the contradictory accounts of authors relative to the effects of narcotics, more to the diversity in the preparation of the extracts, than to any real inefficiency in the remedies; but in employing them it should always be recollected, that the exhibition of remedies so active require both judgment and prudence.

Another remedy in hooping cough lately introduced is sulphuret of potash; and the cases brought forward by Dr. Wesener in proof of its efficacy in that disease, as well as in pulmonary catarrh, are such as to recommend the remedy to the notice of British practitioners. The dose for an adult is six grains, repeated every four hours. It is said to exert a peculiar action in the mucous membrane of the bronchiæ*.

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* *Annals of Philosophy*, vol. viii. † *Repository*, vol. vi. p. 266.

‡ Vide *Journal de Médecine*, tom. iv. p. 289., and *Repository*, vol. vi. p. 76.

Some years ago the nitric acid was introduced as a remedy in *Syphilis*. In India, where it was first employed, it appeared to cure the disease; but in this country, after the most complete trials, the remedy was thrown aside, as inadequate to the effect intended to be produced. Dr. Scott, who first suggested its use, has lately, in a paper on the Arts of India†, explained, partly, the reason of this failure, by stating that the acid he employed was not pure nitric acid, but an impure acid containing an admixture of muriatic acid. He therefore now recommends the use of a compound acid, containing three parts of nitric acid and one of muriatic, which he administers internally, and also applies externally, largely diluted, as a bath, until the gums are affected and ptyalism produced; and he conceives "every trial as quite inconclusive, unless these constitutional effects occur."

Dr. Scott has found this acid particularly useful, even in this country, in that description of syphilis which is termed pseudo-syphilis, and which he considers as real syphilis combined with scrophula, called into action by the mercury employed for the cure of the syphilitic affection, and consequently not curable by mercury, although syphilis be still in the habit, but undoubtedly not produced by that remedy. He attributes the beneficial effects of the acid to the chlorine, which is loosely combined in this compound. Into the merits of this theory it is not our intention to enter at present; but we feel anxious to see the utility of the remedy proved by experience. His statements, however, whatever may be thought of his theory, have received much support from an extensive employment of the mixed acid in the Middlesex Hospital; and we have had some opportunities of witnessing its remedial powers in several cases of herpetic eruptions and of pseudo-syphilis.

Some valuable suggestions have been thrown out by Dr. Kellie‡, on the pathology of a spasmodic affection of the thumbs and toes of children, attended with a swelling of the upper parts of the feet and the backs of the hands, depending on dentition. It occasionally passes into eclampsia, mesenteric fever, or hydrocephalus; and hence the antiphlogistic treatment is required to remove plethora, and correct local determinations, which attention must be given to regulate the alvine secretions.

In *Dysury*, the beneficial effects of the tobacco-enema has lately been fully exemplified in a case arising from a calculus impacted in the urethra, in the practice of Mr. J. Abercrombie of Edinburgh. After its administration, Mr. Abercrombie remarks, "in a very short time he felt a strong desire to pass urine, and upon making the attempt, a large calculus came rolling along the urethra, with complete relief of all his complaints*."

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* *Hufeland and Himley's Journal.*

† *Journal of Science and the Arts*, vol. i. p. 205—11.

‡ *Edin. Med. and Surg. Journal*, vol. xii. p. 270.

Such are the few notices we have to offer on the Practice of Medicine. In concluding them, we may enumerate, in addition, as worthy of attention, Mr. Bedingfield's *Compendium of Medical Practice*; a *Memoire sur l'Introduction de la Fievre Jaune dans les Antilles*, par M. M. de Jonnes; Dr. Stewart's *Treatise on Uterine Hæmorrhage*; and Mr. Waller's *Treatise on Incubus*. *An Essay on the common Cause and Prevention of Hepatitis*, by Charles Griffiths, M.D., has also appeared: but as we have not yet been able to look into it, we must defer our opinion of its merits until we can lay its contents before our readers.

If the Practice of Medicine has advanced some steps, the progress of SURGERY has been still more rapid and effective. In what regards the operative part of the art, the opportunities of war have added much professional boldness to the science of our surgeons; while the advantages of a correct knowledge of principles, in actual practice, have been so frequently impressed on the minds of the junior part of military surgeons, in the treatment of the cases which have been entrusted to them, that an enthusiastic ardour for information has been kindled, likely to be productive of the most important advantages.

No part of surgical science is more interesting than that which relates to the wounds of arteries. The method of treating these in the larger vessels is well understood; and hence success is generally anticipated; but to the smaller and deep-seated vessels, which are less exposed to injury, the attention of the surgeon has been less frequently directed. On this subject an instructive case of a wound of the peroneal artery, successfully treated by ligature, by Mr. Guthrie, is published in the *Medico-Chirurgical Transactions* (vol. vii. p. 330). Another successful instance of tying the external iliac artery is recorded in the same volume†, by Mr. Soden of Bath, by whom the operation was performed according to the method recommended by Mr. Abernethy. After the pulsation ceased, the pain instantly subsided; the heat of the aneurismal limb was greater than that of the sound limb two hours after the operation; but it subsided next day; and in two days it became one degree colder, at which temperature it remained during the cure.

The safety of tying the common *carotid*, we noticed in our analysis of the Medico-Chirurgical Transactions*; and its importance appears still more conspicuous when we find cases of fatal hæmorrhages occurring from ulcerations of the throat, opening into the internal branch of this artery †.

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* *Edinb. Journal*, vol. xii. p. 478.

† Vide vol. vii. p. 536.

On the subject generally of tying arteries, and effecting their obliteration, some very important remarks have been made by Mr. Crampton, in an account he has published of a new method of operating for the cure of external aneurism‡. In noticing Dr. Jones's theory of the obliteration of arteries, he objects to the drawing conclusions regarding the human species from the results of operations on brutes, on account of the greater facility with which the adhesive process takes place in quadrupeds than in man; and the impossibility of producing aneurism in this class of animals: and endeavours to prove, from observations and experiments, the following two positions:—"1. That the obliteration of an artery can very certainly be effected, independently of the rupture or division of any of its coats; and 2. That this operation of the ligature, so far from being essential to the process, not unfrequently defeats it." The first position he supports by two experiments made with the "*presse artère*;" and in aid of his reasonings on the second, he adduces the cases described by Guattano, and by Warner; in which the artery ruptured above the ligature. He conceives we are not warranted in concluding that the internal and middle coats of the artery must be cut through all round, in order to procure the adhesion of its sides; and as the rupture of these coats sometimes produces aneurism and secondary hæmorrhage; he concludes "that a moderate degree of irritation applied to the *external* coat of an artery," aided by a pressure, which will bring its internal surfaces into contact, is sufficient to effect the obliteration of the canal:" and that this obliteration is thus effected "in a period not exceeding twenty-four hours." Mr. Crampton's application of the above principles to practice are extremely interesting; but, for an account of it, we must refer our readers to the paper itself.

On the importance of a regulated *pressure* in the cure of ulcerations, some valuable remarks have been made by Mr. Charles Bell§. *Rest*, however, must be necessarily conjoined with pressure; and by these means, even irritable venereal sores, mercury being properly exhibited, are soon healed. Mr. Bell, nevertheless, concludes from his experience, that as specific action is not subdued by pressure, it cannot be a cure for cancer; but, on the contrary, it may prove hurtful, promoting the absorption of the matter of cancer, and accelerating that affection of the chest attended with serous effusion, which is the last fatal symptom in scirrhus of the breast; and which, Mr. Bell has also observed, is accelerated by pressure bringing "the diseased mamma earlier into contact with the muscles and ribs." We cannot but accord with these remarks, and have long since abandoned all idea of a specific for cancer ever being discovered. It is our duty, however, to bring before our readers every proposal which bears upon this object, and consequently to notice the plan of treating cancerous ulcers by nitrous acid, employed by M. Heschel, Principal Surgeon of the Austrian Military Hospital at Colmar. It is applied to the edges of the sores, by means of a gold probe, once in two or three days, until they are taken down or slough off: afterwards, a simple dressing of torn lint, dipped in distilled water and sprinkled over with powdered gum arabic and a small portion of spirit, is employed*.

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* *Repository*, vol. vi. p. 514.

† Vide a Case communicated by Mr. Golden of Maidenhead, in Mr. Charles Bell's *Surg. Obs.* Part i, p. 39.

‡ Vide *Med. Chirg. Trans.* vol. vii. p. 341.

§ Vide *Surg. Obs. &c*, Part i. 8vo. Lond. 1816, p. 6.—In consequence of Mr. Young's proposal to cure by compression being strongly recommended to the Board of the Middlesex Hospital by the late Mr. Whitbread, the practice was tried, and the Medical

Connected with the management of ulcers, we may mention a paper of Mr. Earle† on contractions succeeding to ulceration of the skin, and another by Mr. Dewar on the treatment of sinuous ulcers by compression‡; both of which contain many instructive remarks.

On the subject of *Fractures*, many useful practical observation have been thrown together by Mr. Bell, in the second number of his Surgical Observations; and the advantages of the employment of the seton in cases in which the union of the divided parts of the bone does not take place, are well illustrated in a case by Mr. Boggie, recorded in the Medico-Chirurgical Transactions, (vol. vii. p. 338.)

We have been much pleased with the opinions of Mr. Copland Hutchinson on Amputation§. He combats, successfully,

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Committee, on the 22d of June last, delivered a Report on the result of their experience in cases of cancer treated by compression. We need quote the following sentence only: "Your Committee have therefore to lament, that compression cannot be regarded as a remedy for cancer."

* *Bibliothique Medicale*, vol. lii. p. 221.

† *Medico-Chirurg. Trans.* vol. vii. p. 411. ‡ *Ibid*, p. 482.

§ *Some Practical Observations on Surgery, illustrated by Cases.* By A. Copland Hutchinson, Mem. of the Royal Col. of Surg., &c. 8vo. London, 1816.

any delay in amputation after gun-shot wounds; and quotes the long established practice of naval surgeons as the best proof of the safety and advantages of early amputation. He objects, also, to the practice of washing the stump in cold water before the dressings are applied, as giving unnecessary pain, and inducing a greater re-action after the patient warms. With regard to the after-treatment, his remarks are highly judicious.

On this part of surgery it would be unjust not to notice the treatise of *M. J. Lisfrane de St. Martin* on the revival of the operation for the partial amputation of the foot*. As we mean to give our readers an early extract from that part of the work which details the steps of the operation proposed by M. Lisfrane, we will at present merely observe, that the great advantages of this operation, is the preservation of a portion of the foot, in many of those instances in which amputation of the limb has been considered absolutely necessary.

As the cases in which the operation of *Laryngotomy* is required are not of unfrequent occurrence, Mr. Bell has endeavoured to simplify and improve it. He recommends the incision to be made with a small scalpel through "the membraneous space betwixt the thyroid and crycoid cartilages;" then to introduce the handle of the knife, and turn it so as to open the slit. This is sufficient if the occasion be temporary; but if a more permanent gap be required, the four corners left by the incisions may be snipt off †.

Many affections of the larynx occur, which cannot be regarded as even modifications of cynanche laryngea, although they not unfrequently terminate in suffocation. Several interesting cases of this disease have been detailed by Mr. Charles Bell‡; in two of which, there was ulceration of the glottis, which was ascertained by the dissection of one of them that proved fatal. The state of the glottis being suspected in the second case from the similarity of the symptoms, and a rough irregular feeling of the part on passing the finger over the root of the tongue into the glottis, the threatened danger of suffocation was averted, by touching the part with a strong solution of argenti nitras, applied by means of a pad of lint attached to the ring of a catheter wire, bent so as to pass over the root of the tongue and glottis. The frequent repetition of this application, with the use of the nitro-muriatic foot bath, effected a perfect cure.

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* *Nouvelle methode opératoire pour l'amputation partielle du pied, dans son articulation tarso-métatarsienne:* par J. Lisfrane de St. Martin, *ancien médecin de première classe aux armées, &c. &c.*

† Vide *Surgical Observations,* &c Part I. by Charles Bell, 8vo. London, 1816, p. 46.

‡ Ibid, p. 14 to 38.

Mr. Howship has published some practical observations on the diseases of the urinary organs; but as we shall soon lay an analysis of it before our readers, we will at present refrain from giving any opinion on its execution.

That extravasation of blood and urine which occasionally happens from erections of the penis in a certain state of stricture, producing rupture of the urethra behind the stricture, has been well illustrated by some cases detailed by Mr. Charles Bell*.

We cannot better close our observations on the progress of Surgery, than by noticing Professor Dupuytren's method of inducing the cohesion of the edges of the gut in cases of artificial anus. He first excites inflammation of these edges by means of a pair of forceps, the blades of which can be compressed together by means of a screw; and the inflammatory action being induced, adhesion of the ends of the intestine which are applied to each other takes place, and then the partition is destroyed, so as to leave a free communication between the upper and lower cavities of the intestine; thus offering a passage for the faecal matter into the lower portion of the bowels, and the fistulous opening becomes obliterated. There is certainly much ingenuity in this proposal, and we trust it will not be overlooked by British Surgeons.

Dr. John Thomson's "*Report of Observations made in the British Military Hospitals in Belgium after the Battle of Waterloo;*" M. Montfalcon's "*Memoire sur l'état Actuel de la Chirurgerie;*" several valuable papers in the seventh volume of the "*Medico-Chirurgical Transactions;*" and Mr. Charles Bell's "*Surgical Observations;*" are the other sources of information on this part of our subject which have appeared within the period of our present *Retrospect.*

Upon the whole, we think there are sufficient grounds of exultation to those who feel truly interested in the advancement of the profession; and we trust the present period is but the commencement of a march of improvement, the progress of which shall be staid, only by the full attainment of perfection in every branch of medical science.

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* *Surgical Observations,* &c. Part i. p. 87. In these instances the urine is effused into the cellular substance of the scrotum, although bursting at the perineum, by being carried forward by the fascia of the perineum. It bursts occasionally into the cavernous body, producing gangrene, and proves fatal if not speedily relieved by art.

SYNOPTICAL VIEW OF THE STATE OF THE ATMOSPHERE, &c. IN LONDON, BETWEEN THE 20TH OF MAY, AND THE 19TH OF NOVEMBER, 1816.

FROM THE 20TH OF MAY TO THE 19TH OF JUNE.—Barometer, highest 30^{1}; lowest 29^{2}:—thermometer, highest 71°; lowest 42°:—prevailing winds, NW and E:—quantity of rain, one inch 16-100ths. The weather, though there were many fine days, was exceedingly cold.

FROM THE 20TH OF JUNE TO THE 19TH OF JULY.—Barometer, highest 30^{1}; lowest 29^{2}:—thermometer, highest 72°; lowest 50°:—prevailing winds, ENE and SW:—quantity of rain, one inch 85-100ths. Unusually cold, but singularly healthy.

FROM THE 20TH OF JULY TO THE 19TH OF AUGUST.—Barometer, highest 30^{1}; lowest 29^{4}:—thermometer, highest 76°; lowest 48°:—prevailing winds, SW:—quantity of rain, three inches 55-100ths. The two only hot days during the summer were the 20th and 21st of July, when the thermometer reached 76° and 75°. There were also some remarkable cold days, when the temperature was only 48°. The quantity of rain that fell was great, but the season was very free from disease.

FROM THE 20TH OF AUGUST TO THE 19TH OF SEPTEMBER.—Barometer, highest 30^{6}; lowest 29^{1}:—thermometer, highest 72°; lowest 41°:—prevailing winds, N and SW:—quantity of rain, one inch 51-100ths. The weather more settled and seasonable.

FROM THE 20TH OF SEPTEMBER TO THE 19TH OF OCTOBER.—Barometer, highest 30^{1}; lowest 29^{4}:—thermometer, highest 66°; lowest 37°:—prevailing winds, SE and NE:—quantity of rain, one inch 83-100ths. The atmospheric variations were great, and there was much fog; but the Register of Diseases was light.

FROM THE 20TH OF OCTOBER TO THE 19TH OF NOVEMBER.—Barometer, highest 30^{1}; lowest 28^{5}:—thermometer, highest 55°; lowest 27°:—prevailing winds, W and NE:—quantity of rain, two inches 55-100ths. This was a very cold and humid period. The frost upon the 7th and 8th of November was very severe, and there was much snow in many parts of the country. The usual consequences on the human constitution ensued.

A Nosological Table *of the aggregate of the Cases recorded in the Monthly Registers of the* Repository *of the* Diseases of London, *between the* 19*th of May and the* 20*th of November* 1816.

CLASS I. PYREXIÆ. *ORDO* 1. Febres.	May. June.	June. July.	July. Aug.	Aug. Sept.	Sept. Oct.	Oct. Nov.	Total.	Fatal.
Intermittentes	28	19	12	17	11	12	99	
Catarrhales	34	23	10	16	33	53	169	
Synocha	22	25	8	4	6	10	75	
Typhus *mitior*	14	7	2	28	15	16	82	2
——— *gravior*	1	1	4	6	4	6	22	6
Synochus	22	9	16	23	28	27	125	2
Puerpera	3		2	5	1	2	13	
Remittentes *infantiles*	13	20	14	15	23	22	107	5
ORDO 2. Phlegmasiæ.								
Phlogosis	16	11	18	15	8	19	87	
Phlegmasia *dolens*	5	2	5	4	5	1	22	
Abcessus	21	12	16	16	24	18	107	2
Furunculus	7	4	4	5	8	6	34	
Pernio		1	1			9	11	
Paronychia	6	4	4	4	7	6	31	
Carbunculus	7	2	3	1	1		14	
Ophthalmia	47	34	37	32	23	45	218	
Phrenitis	4	1	1		1	2	9	2
Cynanche *tonsillaris*	58	49	30	42	35	42	256	
——— *maligna*	4	6	2	1	2	3	18	1
——— *trachealis*	4	4	2		6	3	19	6
——— *pharyngea*		1	2				3	
——— *laryngea*	2						2	
——— *parotidea*	18	9	8	1	12	7	55	
Bronchitis *acuta*	12	2	2	3	3	6	28	2
——— *chronica*	10	10	5	3	5	9	42	
Pneumonia	35	24	23	21	23	33	159	22
——— *peripneumonia*	15	3	13	12	20	11	74	4
——— *pleuritis*	30	12	12	9	11	18	92	1
Phthisis *pulmonalis*	44	34	33	39	35	32	217	94
Carditis		4		2	1	1	8	1
Pericarditis	2						2	
Peritonitis	3	6	2	3	6	5	25	
Gastritis	2	1	1				4	
Enteritis	6	10	7	3	3	6	35	3
Hepatitis	28	16	14	20	19	17	114	4
Splenitis	1	1		1		2	5	
Nephritis	3	2	1	2	2	4	14	
Cystitis						1	1	
Lithiasis	1	3	4	1	1	2	12	
Hysteritis		1			1		2	
Rheumatismus *acutus*	47	40	37	45	23	37	229	
——— *chronicus*	53	52	38	48	46	68	305	
Cephalæa	11	6	9	1	12	14	53	
Cephalalgia	32	29	21	24	24	34	164	
Pleurodyne	3	8	7	7	7	5	37	
Lumbago	8	4			5	6	23	
Hysteralgia	5	4	5	1	4	1	20	

ORDO 2. PHLEGMASIÆ, *Continued.*	May. June.	June. July.	July. Aug.	Aug. Sept.	Sept. Oct.	Oct. Nov.	Total.	Fatal.
Ischias			1	3	2	1	7	
Hepatalgia	5	5	5	7	6	3	31	
Neuralgia	13	11	6	10	3	4	47	
Nephralgia	2	7	2		2	4	17	
Tic Douloureux	1		1	2		1	5	
Odontalgia	17	8	10	27	27	21	110	
Otalgia	2	1		3	1	8	15	
Podagra	11	14	10	9	9	5	58	1
ORDO 3. EXANTHEMATA.								
Variola	34	20	26	27	47	24	178	4
Impetigo *figurata*	2					1	3	
——— *sparsa*	1	2	1			1	5	
——— *erysipelatodes*	4	1			2	2	9	
——— *scabida*	3	1	1	2		5	12	
Porrigo *larvalis*	5	5	2		3	10	25	
——— *scutulata*	5		2	3	3	4	17	
——— *favosa*	4	3	3	6	2	1	19	
——— *decalvans*			2		2	1	5	
Ecthyma	7	7		2	3	2	21	
Scabies	48	61	52	67	52	65	345	
Varicella	13	12	8	14	12	11	70	
Vaccinia	95	49	40	32	40	54	310	
Herpes *zoster*	6	3	5	9	2	10	35	
——— *circinatus*	1	1	1	2		2	7	
——— *labialis*	8	3	1	3	5	2	22	
——— *præputialis*	4				2	1	7	
Eczema	2	4	3		3		12	
Hydrargyria			1	1	2	1	5	
Aphtha *lactentium*	14	9	12	13	15	10	73	
——— *anginosa*	1	1		1	1	2	6	
Miliaria	4		2				6	
Rubeola	77	56	39	47	31	35	285	19
Scarlatina *simplex*	14	12	14	20	18	18	96	
——— *anginosa*	19	3	1	4	5	8	40	1
——— *maligna*			1		2	2	5	1
Urticaria *febrilis*	14	17	2	12	10	4	59	
——— *evanida*	2	2		3	1		8	
——— *tuberosa*	1				2		3	
Roseola	1	7	5		1		14	
——— *varicellosa*						1	1	
Purpura *simplex*	1	2	3	1		1	8	
——— *hæmorrhagica*				1	1		2	
Erythema *læve*	7	4		2	1		14	
——— *nodosum*		1	3		1	3	8	
Erythismus *mercuriale*	1			1			2	
Erysipelas	41	27	21	31	21	14	155	2
Pemphigus		1			1		2	
Pompholyx *benignus*			1		5	4	10	
ORDO 4. HÆMORRHAGIÆ.								
Epistaxis	20	8	5	11	[illegible]	11	62	
Hæmoptöe	21	20	12	11	[illegible]	14	[illegible]	

ORDO 4. HÆMORRHAGIÆ, *Continued.*	May. June.	June. July.	July. Aug.	Aug. Sept.	Sept. Oct.	Oct. Nov.	Total.	Fatal.
Hæmorrhois	37	21	27	27	22	33	167	
Menorrhagia	22	20	20	26	18	24	130	
Abortus	14	17	10	17	16	16	90	
Hæmatemesis	4	6	3	3	2	2	20	2
Hæmaturia	5	1	1	1	.....	1	9	
ORDO 5. PROFLUVIA.								
Catarrhus	134	92	73	62	73	141	575	
Coryza	1	.....	1	.....	.....	7	9	
Leucorrhœa	24	21	15	26	22	9	117	
Dysenteria	14	13	10	19	12	10	78	5
CLASS II. NEUROSES. *ORDO* 1. COMATA.								
Apoplexia	15	7	3	11	10	7	53	26
Paralysis	11	10	13	14	15	8	71	2
——— *hemiplegica*	6	6	5	5	4	4	30	4
——— *paraplegica*	.....	.....	2	.....	.....	2	4	
ORDO 2. ADYNAMIÆ.								
Angina *pectoris*	.....	1	.....	.....	1	.....	2	
Syncope	4	2	.....	.....	.....	.....	6	
Asphyxia	.....	1	.....	.....	.....	.....	1	
Asthenia	25	37	28	30	28	32	180	
Dyspepsia	121	101	69	57	78	81	507	
Anorexia	9	8	2	3	3	5	30	
Cardialgia	5	10	15	14	13	11	68	
Gastrodynia	29	20	30	38	26	31	174	
Entrodynia	29	28	20	23	21	22	143	
Hypochondriasis	7	12	7	8	7	6	47	
Chlorosis	7	11	6	13	12	16	65	
Icterus	17	16	16	7	8	6	70	3
Vertigo	36	31	26	18	16	19	146	
ORDO 3. SPASMI.								
Spasmi	26	17	13	19	15	11	101	
Tetanus	1	.....	.....	.....	.....	.....	1	1
Singultus	.....	.....	.....	.....	.....	1	1	
Convulsio	13	10	9	13	14	10	69	9
Chorea	3	2	5	6	4	4	24	
Catalepsis	.....	.....	.....	.....	1	.....	1	
Epilepsia	5	4	6	5	7	3	30	1
Palpitatio	11	8	2	2	7	2	30	
Asthma	30	42	28	40	39	76	255	18
Dyspnœa	21	14	9	18	17	23	102	
Pertussis	29	22	22	16	13	17	119	5
Pyrosis	5	5	4	2	3	4	23	
Ileus	.....	1	.....	.....	.....	.....	1	1
Colica	14	20	16	16	28	20	114	1
—— *pictonum*	2	3	15	11	11	7	49	
Cholera	11	16	11	38	20	16	112	
Diarrhœa	81	48	35	56	67	78	365	3
Diabetes	2	.....	1	2	3	2	10	

ORDO 3. SPASMI, *Continued.*	May. June.	June. July.	July. Aug.	Aug. Sept.	Sept. Oct.	Oct. Nov.	Total.	Fatal.
Hysteria	27	13	22	23	23	22	130	
Strictura	8	5	3	7	4	5	32	
ORDO 4. VESANIÆ.								
Amentia	2	2			1	1	6	
Mania	14	9	5	10	8	7	53	2
Melancholia	7	6	5	6	7	12	43	
Delirium *tremens*		1			1		2	
CLASS III. CACHEXIÆ.								
ORDO 1. MARCORES.								
Tabes	8	7	3	5	10	4	37	4
Atrophia	4	5	4	10	3	2	28	4
ORDO 2. INTUMESCENTIÆ.								
Plethora	14	7	2	3	8	11	45	
FLATUOSÆ.								
Tympanites	1	2			2		5	
AQUOSÆ.								
Anasarca	23	18	25	22	28	24	140	9
Hydrocephalus	12	4	6	3	11	8	44	30
Hydrothorax	4		1	7	5	4	21	11
Ascites	11	5	7	8	9	16	56	10
Hydrocele	2	1	5	2	2	1	13	1
SOLIDÆ.								
Physconia		1					1	1
Calculus	1	2	1	2	2		8	
Rachitis	3	1	1	1			6	
ORDO 3. IMPETIGINES.								
Scrofula	29	23	14	18	13	24	121	1
Syphilis	44	30	36	43	31	47	231	1
Scorbutus	2	7		5		1	15	
Strophulus *intertinctus*	4	6	5	3	6	7	31	
——— *confertus*	3					3	6	
Lichen *simplex*	5	2	1	2		3	13	
Prurigo *mitis*	11	2	2	1	3	2	21	
——— *senilis*	6	3	5	3	3	6	26	
——— *podicis*	1						1	
Lepra	3	4	3	4	2	4	20	
——— *syphilitica*		1					1	
Psoriasis *guttata*	6	2	1	6	2	5	22	
——— *gyrata*			1			3	4	
——— *inveterata*	14	3	10	1	1	6	35	
Pityriasis			5				5	
Acne	6	6	1	1	5	3	22	
Sycosis *menti*	1	1	3		1	2	8	
——— *capilitii*						1	1	

CLASS IV. LOCALES.	May. June.	June. July.	July. Aug.	Aug. Sep.	Sep. Oct.	Oct. Nov.	Total.	Fatal.
ORDO 1. DYSÆTHESIÆ.								
Amaurosis	1	1	.....	.....	1	2	5	
Dysecœa	.....	.....	.....	.....	1	1	1	
Paracusis	.....	.....	.....	.....	.....	2	2	
ORDO 2. DYSOREXIÆ.								
Anorexia	9	8	2	3	3	5	30	
ORDO 3. DYSCINESIÆ.								
Dysphagia	.....	.....	.....	.....	1	1	2	
Contractura	6	.....	.....	1	.....	1	8	
ORDO 4. APOCENOSES.								
Enuresis	2	.....	2	2	2	4	12	
Gonorrhœa	16	16	10	19	22	18	101	
ORDO 5. EPISCHESES.								
Obstipatio	41	39	24	27	37	35	203	
Ischuria	7	3	6	3	6	3	28	
Dysuria	7	6	3	10	8	10	44	
Amenorrhœa	2	22	16	1	3	26	142	
ORDO 6. TUMORES.								
Aneurisma	3	1	.....	.....	1	1	6	
Varix	.....	.....	.....	.....	1	.....	1	
Scirrhus	5	2	.....	1	3	1	12	1
Cancer	4	4	2	4	6	8	28	8
Polypus	1	.....	.....	1	.....	1	3	
Hydrarthyrus	1	.....	.....	2	.....	1	4	
Exostosis	.....	.....	.....	.....	.....	1	1	
Bronchocele	4	.....	1	3	4	.....	12	
ORDO 7. ECTOPIÆ.								
Hernia	2	5	3	3	2	4	19	2
—— *humorrhalis*	.....	.....	.....	2	.....	.....	2	
Prolapsus	6	.....	6	5	1	4	22	
ORDO 8. DIALYSES.								
Fistula	5	.....	3	3	5	5	21	
HETEROCLITES.								
Dystochia	.....	1	1	1	.....	2	5	
Vermes	29	31	27	33	28	27	175	
Morbi *Infantiles*	13	9	9	105	114	104	642	23
—— *Biliosi*	9	8	71	62	5	67	432	
Totals	2739	2086	1754	2039	2056	2315	12989	417

Recapitulation of the Number of Cases in all the Genera of Diseases recorded in the Monthly Registers, between the 19th of May and November the 20th, 1816.

			Cases.	Fatal.
From 19th of May to the 20th of	June	1816,	2739	79
—— June	—— July	——	2086	51
—— July	—— August	——	1754	64
—— August	—— September	——	2039	65
—— September	—— October	——	2056	79
—— October	—— November	——	2315	79
			12,989	417

PART I.

ORIGINAL COMMUNICATIONS.

I.

A General View of the Diseases usually occurring in Boys during the Period between Infancy and Puberty in Christ's Hospital, exhibited in a Synoptical Table, and accompanied with practical Observations. By Henry Field, Member of the Society of Apothecaries, London, and Apothecary to Christ's Hospital.

(Continued from vol. vi. p. 265.)

TABLE OF DISEASES.	1816 Sept.	1816. Oct.	1816. Nov.
1 Cynanche tonsillaris	2	2	2
2 ——— trachealis	......	1	2
3 Scarlatina anginosa	1	......	......
4 Febris Synochus	2	1	3
5 Tussis Catarrhalis	......	......	6
6 Pleurodyne	1	1	......
7 Nausea, Gastrodynia vel Diarrhœa	8	13	1
8 Cephalæa	......	1	1
9 Obstipatio	1	......	......
10 Hepatitis acuta	......	1	......
11 Variola confluens	1	......	......
12 —— post vaccinationem	......	2	1
13 Varicella	1	......	......
14 Rheumatismus acutus	......	1	......
15 Rubeola	1	16	......
16 Icterus	2	2	1
17 Prurigo mitis	......	2	......
18 Herpes zoster	1	......	......
19 Parotis benigna	......	1	......
20 Pompholyx benigna	......	1	......
Totals	21	45	17

The autumnal months have been for the most part cold, with much rain. The harvest has been greatly protracted, and the grain much injured. The health of the boys on this Foundation has not suffered by the state of the weather. No unusual degree of disease has occurred; for, with the exception of cough and derangement of the primæ viæ, the Infirmary has been very free from other patients. In the latter part of September the measles made their appearance, and prevailed during the month of October; the whole number of cases were seventeen, of which one proved fatal. The remainder passed through the disease as well as could possibly have been expected in a state of atmosphere so extremely unfavourable to that malady.

T. H. O., aged nine years, was attacked with the usual antecedents of measles on the 15th of October. The febrile symptoms of heat and quickness of pulse were greater than common; but the cough and affection of the chest were by no means remarkable. The eruption was late in its appearance, and there was a slight delirium at intervals. The fever continued unabated after the eruption, which never put on that florid colour observed in the milder disease. The bowels were much disposed to diarrhœa. This was a decided case of the rubeola maligna described by several authors, and which will not admit of those free evacuants which are so advantageous in the truly inflammatory disease. Leeches were applied to the chest, blisters to the legs, a vinegar poultice to the neck, ipecacuanha administered in small doses, and other remedies applied as the symptoms from time to time indicated; but the patient sunk under it on the eighth day from his admission into the Infirmary.

DISSECTION.

Mr. Lloyd, one of the House Surgeons of St. Bartholomew's Hospital, examined the body after death, who observed, that the principal peculiarities in this case were inflammation of the mucous membrane lining the trachea and bronchia, and consequent effusion of lymph and matter so considerable, as to completely block them up at their commencement; and in their more minute ramifications, the same effect had been produced as was discovered by squeezing the substance of the lungs in any part where an incision was made; pus then oozing out in what may be called rather large quantities. In the pelvis of the right kidney, pus was also ascertained to be present. The internal surface of the stomach was also inflamed.

In one case of measles, tracheal inflammation occurred in a very high degree before the commencement of the eruption; it yielded to copious bleeding, and the disease went through its stages favourably; but the symptoms of croup again made their appearance in the decline of it, accompanied with a degree of dyspnœa unusually great. Bleeding was again had recourse to, and with obvious advantage; the difficulty of breathing was almost immediately relieved, and health was in due time perfectly restored. I am more anxious to record this circumstance, from the great danger which generally attends this symptom, when happening in the latter stage of measles*.

There have been three instances of small pox after vaccination; the infection arising from a case of confluent small pox which took place in September. They were all extremely mild and of very short duration. When it is considered how many hundred of the boys have undergone the vaccine inoculation, it is not at all wonderful, that upon their exposure to the chance of the variolous infection, a few of them should be susceptible of it, especially when there is always a possibility that the vaccination may have been, from the state of the vaccine fluid, or from other causes, improperly performed.

The case of hepatitis was very severe, and required repeated bleeding, both general and topical, with the other usual evacuants; but it gradually gave way, and after about a month, the boy was sufficiently recovered to be removed into the country, whence he is returned quite well.

Besides the above case of fatal measles, there have been two deaths during the present period, both of them of boys about twelve years of age; the one, C. T. G., was of a highly scrophulous habit, and belonged to a family of which an uncommon number have died consumptive: namely, his father and five or six of his uncles and aunts. He was sent to his friends in the coutry in July last, where he lingered until the month of September, when he died greatly emaciated. The other boy also died of pulmonary consumption with his friends in the country, where he had been for several months.

Having now concluded the third year of these Reports, I shall give a brief summary of the principal occurrences of it; just premising that a more unkindly succession of weather, such as has prevailed during the whole of it, has scarcely ever been before known. Its prevailing characters have been cold and wet; yet there has been no continued severity of cold, and the rain rather constant, or but little interrupted, than excessive in quantity; there has been a general cloudiness of sky and gloom in the atmosphere, with but little sunshine, and consequently much less heat than usual.

Notwithstanding these circumstances, the year has not been unhealthy. The number of patients admitted into the Infirmary were 295, which is 119 fewer than the preceding period.

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* I have, within these few days, seen an instance in private practice of tracheal inflammation taking place during the progress of *Cynanche tonsillaris erysepelatosa,* which proved fatal in a few hours.

Of this number, five have died. One of carditis, three of consumption, and one of measles.

Cynanche parotidea and rubeola have been the only diseases appearing in numbers sufficiently large to be worthy of notice; instances of general fever have been comparatively few.

Although it is no part of my design in these Reports to take notice of such cases as are within the province of the Surgeon to this Institution, yet it may be right to mention, that the boys of this school have been for some time past much afflicted with an ophthalmy, which, during the months of April and May last, increased considerably among them, and continued in a greater or less degree during the whole summer. It is decidedly the effect of contagion, and that in the strictest sense of the word; having prevailed greatly in some of the wards, while others have suffered but little, and one of them has been almost entirely free from it. It may, therefore, be fairly inferred, that the intercourse of the school-room and the play-ground has not been in general sufficient to produce this disease. The indiscriminate use of their towels has been the most probable means of extending the contagion, which in so great a number of boys, who are naturally inattentive to such circumstances, it was impossible altogether to prevent, though much pains were taken to avoid it. As a total separation of the diseased from the healthy has been adopted, by appropriating a particular ward for that purpose, and the disease is of late so greatly diminished, that at present, only a very few cases of it exist; it is to be hoped, that a very few weeks will put a final stop to this distressing and troublesome malady. Among the great number of instances which have occurred, it must be expected that some of them should prove severe, and be attended with considerable inflammation; but by much the greater part have been mild. No material difficulty has arisen in conducting the curative treatment, nor is there the smallest appearance of any permanent injury to the eye likely to take place in any of the boys.

II.

A remarkable Coincidence of Anomalous Structure in the Brains of two Idiots, with an extraordinary State of Disease of the Viscera. By Charles Hastings, late House-Surgeon to the Worcester Infirmary.

William Lowe of Worcester, ætatis sixty, a man of very weak natural intellect, and indeed considered as an idiot, tall and very thin, had been affected for three years with giddiness and pain in the head, which had from time to time been relieved by local bleeding, blisters, and setons to the neck; but most by a caustic applied at the point where the coronal and sagittal sutures meet. He always had, combined with this affection of his head, more or less of griping with slimy stools; which latter symptoms, for the last twelve months, had been particularly severe, producing an almost constant diarrhœa and tenesmus.

These complaints were relieved by opiates, combined with ipecacuanha, and by occasional opiate clysters, and, when any particular part of the abdomen was complained of, by the application of blisters. In addition to these symptoms, he latterly had frequent pain in voiding his urine, and sometimes difficulty in expelling it.

This was his general state up to the 8th of April 1814; when he was seized in the night with an increase of pain, but he did not mention it until eleven A.M. He had then vomited twice; his countenance was ghastly, his pulse quick, small, and oppressed. He did not complain of pain, except when the abdomen was pressed; he then removed the hand, and confessed that he felt some pain, and that it had come on in the night. His bowels were open and skin clammy.

Blood was drawn generally and locally, but without any abatement of the symptoms: on the contrary, on the loss of blood his pulse became quicker and his skin more clammy. Large blisters were applied to the abdomen, but they did not act on the disease. He sunk rapidly, and died on the morning of the 11th. The bowels were not at all constipated.

SECTIO CADAVERIS, eighteen hours after death.

Head.—Nothing remarkable was observed in the scalp or dura mater. On removing the latter, the tunica arachnoidea was found thickened and opake, and, on puncturing it, a serous fluid, to the amount of about three ounces, escaped from between it and the pia mater. Some of the vessels of the pia mater were nearly empty, and appeared to be larger than common. There was about an ounce of serous fluid in the lateral ventricles. Both the cineritious and medullary substance of the brain, when cut into, had a more vascular appearance than in the natural state of that organ. The object the most curious was an anomaly which prevailed in the structure of the brain: the posterior cornua of the ventricles were absolutely wanting, so that there was no trace of the hippocampus minor. This deviation did not appear to be the effect of disease; for the structure of the brain did not differ in any other respect from that disposition of parts which is common in other brains.

THORAX.—*Heart.*—To the membrane covering it several patches of lymph were adherent, and it was vascular; but the organization of this viscus in other respects was unimpaired.

Lungs.—They were perfectly healthy, but the pleura was universally increased in vascularity; and an effusion of serum, with flakes of lymph swimming in it, had taken place into the cavity of the thorax. The bag of the pericardium contained about two ounces of the same kind of fluid.

ABDOMEN.—The *Omentum* was glued to the intestines, and these to each other, by recent coagulable lymph; the whole peritoneum was very vascular; and a large quantity of fluid was found in the cavity of the abdomen, similar to that in the thorax.

Stomach.—Externally, about the middle of the upper surface all the coats of the stomach had been destroyed by ulceration. On dividing the parietes of the stomach, the coats, for nearly the whole extent of the upper surface, were found thickened to more than four times their natural substance, and were converted into a gristly substance. About the centre of this mass was an irregular circular ulcer perforating the coats, and two inches in diameter; the edges were rising and callous, the ulcer itself fungated.

The contents of the stomach were prevented from escaping into the cavity of the abdomen by adhesive inflammation commencing in the peritoneal covering of the concave surface of the left lobe of the liver; a layer of lymph had been deposited on the whole of that part of the liver which was exposed to the action of the contents of the stomach; and at this part a complete and firm union had taken place between these two viscera.

Nearer the cardiac end of the stomach, in its cellular coat, there was an abscess containing about two drachms of ill-conditioned pus.

The lymphatic glands, situated above the larger curvature, were enlarged to the size of pullets' eggs, and contained a cheesy kind of substance resembling lymph. The other parts of the villous coat of the stomach ~~was~~ sound.

The villous coat of the intestines was examined throughout, and, as far as could be detected, was quite free from inflammation or ulceration.

Liver.—Peritoneal coat thickened, and its structure of a lighter colour than natural.

Bladder.—The middle lobe of the prostate gland was considerably enlarged.

All the other viscera were healthy.

CASE II.

The singularity in the construction of the brain in the above case, with its attendant weakness of intellect, struck me so forcibly that I determined to embrace every opportunity that offered of minutely examining the cranium of every patient where there was an approach to idiotism.

It was not long before a man, aged twenty-five, and who was little superior in understanding, died from erysipelatous inflammation attacking the head. Upon examining the structure of the lateral ventricles, the anterior and inferior cornua appeared fully developed; but here, as in the first case, the *posterior* cornua were wholly deficient.

OBSERVATIONS.

Such was the peculiar dullness of apprehension in W. Lowe, that he could scarcely give any account of his disease, and it was difficult to make him understand any questions that were put to him relating to it. And during the last attack, when so much mischief was going on, he complained of comparatively little pain.

The very diseased state of the stomach must necessarily have been the work of length of time; yet, except the griping in the bowels, he had no symptom which could lead to the expectation of such extensive disease of that viscus. There was no vomiting till a very short period before his death; his appetite was undiminished; indeed it was rather increased; for the quantity which he ate was so great as to be frequently remarked. It is true he complained more frequently of pain in the epigastrium than elsewhere; but pain in that part is so common, that that could not be considered as a diagnostic.

He had for many months been subject to tenesmus, with slimy, and sometimes bloody, stools: hence one would have supposed there would have been found some traces of disease on the villous coat of the bowels; but none were observable.

Lastly, the adhesive inflammation which united the perforation in the stomach with the peritoneal covering of the liver, of which Nature availed herself to carry on the important offices of the former in the animal œconomy, is a rare, and perhaps unique, pathological fact; and shows how very wonderful and various are her resources, even when totally unassisted by art.

I do not remember that any pathologist has remarked a similar peculiarity in the brains of other idiots, as it was my fortune to observe in these two cases. Perhaps I ought to consider them as a singular coincidence only. Nevertheless it will be allowed, that such a structure may be as much the occasion of defect of intellect, as of any other mal-formation or lesion of the skull or its contents. In the head of William Lowe, independently of the anomaly with respect to the ventricles, there were marks of disease; but whether induced by that mysterious sympathy which is known to exist between the brain and the abdominal viscera, or whether the extraordinary state of disease exhibited in the latter was, through the same occult means, derived from disorganization primarily of the brain, it is impossible to venture upon deciding.

III.

Case of Hepatitis induced by injury of the Scalp; and by Sympathy affecting the Mental Faculties. By the Same.

William Stephens, ætat. twenty-seven, a robust, healthy man, was received into the Worcester Infirmary on the 4th of June 1814, in consequence of having received a wound on the scalp. He went on very well, the wound rapidly healing, till the 18th, when he was seized with erysipelas (which was then very prevalent in the wards of the Infirmary) on the face and neck. He was vomited with tartar emetic, and the erysipelas left him. On the 21st, in the morning, he had some slight return of it, and was again vomited, and it again went off.

22d. About three A. M. he was taken ill with pain at the scrobiculus cordis, with difficult breathing, which had at six, when he was visited, increased very much: his skin was hot, pulse full and hard, tongue dry, and bowels open; he had within the last hour become very stupid, and merely said he was very bad; but on pressure being made on the epigastrium and the right hypochondrium, he complained very much. Eleven ounces of blood were taken from the arm: he then became more sensible, and said the pain was in his stomach. At this time the tenderness in the right hypochondrium had increased; but his pulse was slower since the loss of blood. He remained in this state till about noon, when there was exacerbation of fever; all his other symptoms were aggravated; and, in addition, he had a spasmodic affection of the muscles of the face, similar to the *risus sardonicus.* Eight ounces of blood were now taken from the epigastrium by the cupping glasses, and a blister was applied to the part. The cupping almost immediately relieved the spasmodic affection of the muscles and the pain in epigastrio, as well as the disordered respiration.

At six P. M. he became worse; his skin was hot, the face flushed, pulse small and contracted, and slight delirium;

there was apparently great distress about the præcordia, with much tenderness of the epigastrium, respiration laborious and quick; he kept his body constantly bent forward, and had occasional singultus; and when this came on, he always endeavoured to rise on his hands and knees. V.sectio ad uncias sex. His pulse became more open under the use of the lancet; he was freer from pain, and went to sleep.

℞ Haust. salin secunda quaque horâ sumendus.

23d. He passed an extremely restless night, being most of the time on his hands and knees, talking incoherently; his pulse is not quicker than natural this morning, but hard and small; his breath is less affected than yesterday, and the pain and tenderness in the epigastrium and right hypochondrium are diminished; he is very dull and stupid, and has some erysipelatous affection about the face and neck; the wound looks well; the skin hot and dry; bowels have not been moved since last night. Order a purging draught with salts and senna to be taken every three hours till it operates; and eight ounces of blood to be taken from the arm. His pulse is softer since he was bled; bowels have been moved once; still points to the epigastrium as the seat of pain, and says it began there.

24th, Mane. There is a great degree of stupor and confusion about him; says he has no pain in his head; but hesitates in his speech, and his mental faculties are evidently much affected. He now breathes with freedom, complains of no uneasiness about the præcordia, and the epigastrium is free from tenderness. Pulse still hard, skin cool, and the erysipelatous inflammation on the face and neck nearly gone: the wound does not look so well. Bowels have not been moved to-day. Take five grains of sub-muriate of mercury, and repeat the purging draughts, and abstract eight ounces of blood from the *temporal artery*. The result was as favourable as could be desired; all the symptoms abating.

25th. Convalescent.—27th. Recovering his strength fast; the wound healing. From this period every thing went on prosperously.

OBSERVATIONS.

This case appears from the 21st to have been an attack of acute hepatic inflammation: to this there very soon succeeded a high degree of nervous irritation, which was evident from the spasmodic affection of the muscles, from the state of the respiration, and from the derangement of the mental faculties, which had not the character of simple delirium from fever. I conceive that this state of irritation of the nervous system was entirely attributable to the inflammation of the liver as the primary cause.

It may be perhaps asked, if inflammation of the liver were the cause, why did not the symptoms of nervous irritation subside with the pain in epigastrio? The reason is obvious. We know, when a part becomes irritated, the vessels very soon take on diseased action: and here, no doubt, the vessels of the brain, from the irritation which had been excited in that organ through the medium of the ganglia of nerves by which it communicates with the liver, had taken on diseased action; and the diseased action of the vessels of the brain became the cause of keeping up the irritation of the nervous system after the primary cause, the inflammation of the liver, was removed. With that view, it was necessary to abstract a small quantity of blood from the temporal artery, after the pain, &c. in the epigastric and hypochondriac regions had subsided, and the immediate effect was as might be expected—the restoration of his mind.

This case serves to point out the intimate connection that subsists between the functions of the abdominal viscera and the brain.

Numerous instances are recorded of affections of the viscera from wounds on the scalp; and it is not improbable, although an attack of erysipelas intervened, that this affection of the liver was originally induced by sympathetic action; and that re-action produced a lesion of the mind. However this may be, the case plainly and forcibly shews that derangement of the hepatic system does become an exciting cause to derangement of the mental faculties: and of this fact I saw a more striking example, in the same Infirmary, in a man who became deranged from a blow on the seat of the liver; for which the proper treatment having been employed, the effect, mental derangement, ceased, when the cause, injury of the liver, was removed. I regret that the loss of my notes of this case prevents the publication of the particulars of it.

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PART V.

MEDICAL AND PHYSICAL INTELLIGENCE.

NOTICES OF LECTURES.

Middlesex Hospital.—Dr. P. M. Latham and Dr. Southey will commence a Second Course of Lectures, on the Practice of Physic, at this Hospital, on Monday, the 3rd February next.

Theatre of Midwifery, 68, Berners Street.—Dr. Clough commences his Winter Course of Lectures on the above Science, &c. on Monday morning, the 6th of January, at half past ten.

London Hospital.—Mr. R. Phillips will commence his Second Course of Lectures on Chemistry on Tuesday the 4th of February next, at half past seven in the evening; to be continued every Tuesday, Thursday, and Friday till the termination of the Course.

Mr. Clarke will commence his next Course of Lectures on Midwifery, and the Diseases of Women and Children, on Monday, January 27th. The Lectures are read every morning from a quarter past ten to a quarter past eleven, for the convenience of students attending the hospitals. For particulars apply to Mr. Clarke, at the Lecture Rooms, 10, Saville Row, Burlington Gardens.

LITERARY NOTICES.

In the press, Outlines of Geology, by W. T. Brande, F.R.S. Prof. of Chem. Royal Inst.

Dr. Armstrong will publish the second volume of Illustrations of Fever, in the Spring.

Dr. Spurzheim is preparing a work, to be intitled Pathology of Animal Life, or the Diseased State of the Manifestations of the Mind, termed Insanity.

Dr. John Williamson is engaged on a work of Medical and Miscellaneous Observations, relating to the West India Islands.

A work is in the press, intitled A Picture of the present State and Practice of the Royal College of Physicians, in London; containing Memoirs Biographical, Literary, and Critical, of all the resident Members, and the Heads of the Medical Boards; with an Appendix, or Account of the different Medical Establishments, Scientific and Charitable, of the Metropolis.

A small volume, intitled The Surgical Catechism, intended as a Pocket Companion to Students in Surgery, is in the press.

MISCELLANEOUS.

Army Medical Board Office, Sept. 30, 1816.—The Army Medical Board, solicitous for the improvement of the department in its various branches, and considering the present a favourable opportunity for the selection and encouragement of well-educated persons, have thought it adviseable to promulgate the courses of instruction, and the qualifications required from gentlemen entering the medical department of the army, and during the progress of advancement in the service.

For Hospital Assistant.—The candidates for this first commissioned appointment in the medical department, must produce certificates of regular study, in the following branches of professional knowledge, at an established school of eminence; viz. *Anatomy, Surgery, Practical Anatomy, Practice of Medicine, Chemistry,* during the full period of twelve months: *Materia Medica, Botany,* during six months: *the Practice of Medicine and Surgery* in an hospital or infirmary at least one year, with a regular apprenticeship; or three years without an apprenticeship; in which case a certificate of having studied practical Pharmacy will be required. Regimental medical officers should also be acquainted with Midwifery. It will be considered an additional recommendation to gentlemen entering the service, to have attended public establishments for the treatment of Diseases of the Eyes and Mental Derangement.

A liberal education is indispensably requisite, and the greater the attainments of the candidate are in the various branches of science, in addition to competent professional knowledge, the more eligible will he be deemed for promotion; as selections to fill vacancies will be guided more by reference to such acquirements than to seniority.

By the established regulations every gentleman must have served five years at least in the junior appointments, before he can be promoted to the rank of regimental surgeon; and he who gives the best proofs of diligent exertion in the performance of his public duty, and of attention in the acquirement of practical knowledge, will be noted as the most eligible candidate for advancement.

Gentlemen already in the service are earnestly recommended to avail themselves of every opportunity of adding to their knowledge, by attending universities or schools; for which purpose, every facility will be afforded by the Director-General. They are especially desired to transmit to this office the statements of such classes as they may have attended subsequently to the examination before this Board, either on professional or other branches of science, that the same may be duly registered; and every gentleman must be prepared for a second examination, if called upon, before he obtain further promotion.

Medical officers are encouraged and recommended to look forward to the appointments of Surgeon to the Forces, and of Physician to the Forces; and to endeavour especially to qualify themselves for either, according to the bent of their inclinations, and to their previous study.

For the commission of *Surgeon to the Forces* it will hereafter be expected, that the candidate shall have attended a public hospital three years, one of which must have been passed in London, and a diploma from the Royal College of Surgeons of London will always be respected.

The rank of *Physician to the Forces* requires, in addition to the knowledge and experience to be gained in the regular progress of study and of service, that the candidate should be a licentiate of the Royal College of Physicians of London, or graduate of the University of Oxford, Cambridge, Edinburgh, Dublin, or Glasgow. The licence of the London College of Physicians will always be considered a great recommendation to those who have the other requisite qualifications.

Although the British Schools are specified, it is to be understood, that candidates who have received regular education in foreign universities or other schools of acknowledged celebrity, will be admitted to examination.

Note.—All letters to be directed to the Right Honorable the Secretary at War, with the words "Medical Department" at the left hand corner.

A ROYAL INSTITUTION FOR THE CURE OF DISEASES OF THE EYE is just established in the Metropolis, which is to be under the surgical direction of Mr. Guthrie.

A ROYAL INSTITUTION FOR THE CURE OF THE DISEASES OF THE EAR is also recently formed under most respectable auspices; to which Mr. Curtis is appointed Surgeon-Aurist.

Mr. Andrews has been elected to succeed Mr. T. Blizard, as one of the Surgeons of the London Hospital.

Death of Mr. ROYSTON.—It is with very sincere regret we have to announce the decease of our respected Friend, and late Colleague, Mr. ROYSTON, which took place on the 3rd of last month, after a long-protracted state of suffering. Through the favour of his intimate Friend Mr. BROOKES, we shall, in our next Number, present our readers with a brief biographical sketch of this Gentleman.

A General Bill of the Diseases, Casualties, Christenings, and Burials of London, from December 12, 1815, to December 10, 1816.—By the Company of Parish Clerks of London.

Abortive and Stillborn	734	Epilepsy	4	Pleurisy	22
Abscess	106	Evil	8	Purples	2
Aged	1913	Fevers of all kinds	1299	Quinsy	2
Ague	3	Fistula	8	Rash	1
Apoplexy and Suddenly	454	Flux	15	Rheumatism	14
Asthma	1003	French Pox	61	Rising of the Lights	1
Bedridden	5	Gout	56	Scrophula	2
Bile	1	Gravel, Stone, Strangury	14	Scurvy	2
Bleeding	30	Grief	4	Shingles	1
Bursten and Rupture	85	Headmouldshot, Horshoehead, & Water in the Head	408	Small Pox	653
Cancer	79			Sore Throat	13
Chicken Pox	1	Inflammation	977	Sores and Ulcers	15
Childbed	234	Jaundice	76	Spasm	43
Colds	19	Jaw Locked	2	St. Anthony's Fire	7
Colick, Gripes, &c.	6	Leprosy	1	Stoppage in the Stomach	26
Consumption	4272	Lethargy	1	St. Vitus's Dance	1
Convulsions	3264	Livergrown	79	Swelling	2
Cough and Hooping Cough	66[illegible]	Lunatic	230	Swine Pox	1
Cramp	2	Measles	1106	Teeth	417
Croup	92	Miscarriage	7	Thrush	89
Diabetes	5	Mortification	326	Tumor	5
Dropsy	788	Palpitation of the heart	11	Water in the Chest	45
Dysentery	1	Palsy	195	Worms	15

Broken limbs	5	Frighted	6	Murdered	8
Burnt	48	Killed by falls and several other accidents	56	Overlaid	2
Drowned	105			Poisoned	8
Excessive drinking	13	Killed by Fighting	1	Scalded	5
Executed*	10	Killed by Swallowing a Shilling	1	Suffocated	5
Found dead	31				
Fractured	4	Killed themselves	50	Total of Casualties	361

Christened.........Males 12,132......Females 11,449......In all 23,581
Buried.............Males 10,105......Females 10,211......In all 20,316

Whereof have died,

Under 2 years of age	5400	Between 30 and 40	1912	Between 80 and 90	781
Between 2 and 5	1960	40 50	2125	90 100	1[illegible]8
5 10	845	50 60	1[illegible]	100 years of age	3
10 20	675	60 70	17[illegible]	103	1
20 30	1464	70 80	1508	104	1

Increased in the Burials this year 756.

* There have been executed in the City of London and County of Surry, 25; of which Number 10 only have been reported to be buried within the Bills of Mortality.

A METEOROLOGICAL TABLE,

From the 21st of November, to the 20th of December, 1816,

KEPT AT RICHMOND, YORKSHIRE.

230 Miles NW from London.

D.	Barometer. Max.	Barometer. Min.	Therm. Max	Therm. Min.	Rain Gage.	Winds.	Weather.
21	29 57	29 57	43	38		SE..	1 Sun. 2 Cloudy...
22	29 57	29 54	39	34		SE..	1 Sun..
23	29 54	29 53	37	28		NE.E.	1 Cloudy.. 4 Starl....
24	29 51	29 42	35	29		WSW..	1 Sun.... 4 Cloudy..
25	29 51	29 47	37	33		SW..	1 Cloudy... 4 Moon.
26	29 64	29 62	44	34		SW..	1 Sun...
27	29 78	29 74	46	42		WSW..SW...	1 Cloudy... 4 Moon..
28	30 06	29 89	47	40		SW..	1 Sun...
29	30 25	30. 16	43	34		WNW..	1 Sun..
30	30 29	30 25	39	35		NW..	1 Sun.. 3 Cloudy..
1	30 09	29 97	41	36		WNW..	1 Cloudy.. 2 Sun...
2	30 01	29 99	43	32		WNW..	1 Sun...
3	29 99	29 98	39	33		NW..	1 Sun... 2 Cloudy...
4	29 88	29 66	39	36		S.	1 Cloudy....
5	28 97	28 94	41	37	05	SE.SSE...	1 3 Cy .. 2 Sun. 4 R.
6	29 02	28 99	40	34	01	SW..	1 Sun.. 4 Rain.
7	29 13	29 09	37	31	Melted	WSW..	1 Sun.. 4 Snow..
8	29 26	29 22	37	31	Snow	SW..	1 3 Sun.. 2 Cy.. 4 Mn...
9	29 16	29 15	37	32	33	SE.	1 Sun. 2 Cy.. 4 Rain..
10	28 75	28 74	37	33	13	SW..S..	1 S.2Cy.. 3 Sl. 4 R.. Lt..
11	28 91	28 91	36	29		SW...WSW..	1 Sh of Sn.. Th.. & Lt. 4 Stl...
12	28 66	28 55	33	30		WSW.E.NE.	1 Sun... 2 Cy.... 4 Sn...
13	28 87	28 66	35	33		N.	1 4 Cy.... 2 3 Snow..
14	28 60	28 30	36	30		SW..	1 Sun.. 4 Snow..
15	28 91	28 69	37	31	Melted	W...	1 Cloudy... 2 Sun..
16	29 08	28 92	36	28	Snow	W.	1 Sun...
17	29	28 81	36	31	1·02	SW.	1 Snow... 4 Starl..
18	29 85	29 64	37	29		NW..	1 Cy... 3 Sleet. 4 Stl...
19	30 11	30 08	36	25		NW..	1 S...Sh of Sn.. 4 Stl...
20	30 11	29 91	29	20		NW.	1 Sun...

THE quantity of rain during the month of November was 1 inch 19-100ths.

Observations on Diseases at Richmond.

The weather has been very variable this period, the barometer varying from 30·29 to 28·30; there was lightning on the night of the 10th of December, and thunder and lightning on the morning of the 11th.

Febrile and catarrhal complaints have become very prevalent. Cases of Asthma, Colica, Cynanche Tonsillaris, Diarrhœa, Dyspepsia, Dysuria, Erysipelas, Hepatitis, Menorrhagia, Obstipatio, Pneumonia, and Rheumatismus acutus have been under treatment.

METEOROLOGICAL TABLE FOR LONDON,

From the 20th of NOVEMBER, to the 19th of DECEMBER, 1816.

By Messrs. HARRIS & Co.

Mathematical Instrument Makers, 50, High Holborn.

M.	D.	Therm.			Barom.		Rain Guage	De Luc's Dry.	Hygrom. Damp.		Winds.		Atmo. Variation		
	20	39	47	38	30	30^{1}			7	6	S	SSE	Clo.	——	Fine
●	21	40	48	36	30	29^{9}			5	5	SE	E	Fine	——	——
	22	40	43	30	29^{8}	29^{8}			4	5	E	E	Fine	——	——
	23	32	35	27	29^{9}	29^{9}			5	6	E	ENE	Fine	——	——
	24	28	31	32	29^{9}	30			9	10	S	WSW	Fine	——	——
	25	34	44	38	29^{9}	29^{9}	05		12	10	SW	S	Fine	——	Rain
	26	43	46	35	30	30^{2}	19		12	14	W	NW	Rain	——	Clo.
	27	37	45	42	30^{6}	30^{7}			15	15	SW	SW	Clo.	——	——
	28	44	46	35	30^{7}	30^{4}			13	12	SW	SW	Clo.	——	Rain
◐	29	36	40	34	30^{7}	30^{6}	07		12	12	W	N	Clo.	——	Fine
	30	35	39	33	30^{6}	30^{7}	04		10	7	N	N	Fine	——	——
	1	34	40	38	30^{5}	30^{5}			12	10	W	W	Fine	——	——
	2	38	42	36	30^{6}	30^{5}			8	9	W	W	Fog	Fine	——
	3	37	42	35	30^{5}	30^{4}			10	10	SW	W	Fog	——	Fine
	4	37	43	40	30^{2}	30^{1}			10	10	SW	SSE	Clo.	Fine	——
	5	41	46	41	29^{9}	29^{8}	Rain Guage frozen.		10	8	SSW	SSW	Clo.	——	Rain
○	6	41	44	39	29^{5}	29^{2}			9	9	S	SW	Fine	Clo.	Rain
	7	41	41	31	29^{5}	29^{6}			10	8	SW	S	Fine	——	——
	8	34	38	32	29^{7}	29^{8}			10	10	SW	SW	Fine	Clo.	Fine
	9	35	37	40	29^{7}	29^{6}			14	15	SE	ESE	Clo.	Rain	——
	10	40	41	39	29^{5}	29^{3}			15	12	W	SSW	Clo.	——	Rain
	11	41	42	32	29^{5}	29^{3}			10	9	S	SE	Clo.	——	——
	12	33	40	33	29^{1}	29^{1}			10	9	SW	S	Fine	Clo.	——
	13	34	39	39	28^{7}	29			10	10	SW	W	Clo.	Rain	Clo.
	14	39	42	39	29^{5}	29			9	10	S	Sva	Fine	——	Rain
◑	15	40	41	34	29	29^{4}			11	10	WSW	SW	Fine	——	——
	16	34	39	39	29^{4}	29^{5}			11	12	WSW	WSW	Rain	Clo.	Fine
	17	40	43	38	29^{5}	29^{3}			15	15	SW	SW	Rain	——	Fine
	18	41	43	35	29^{5}	29^{9}			16	12	SW	SSW	Clo.	——	——
	19	36	37	30	30^{2}	30^{4}			10	8	NW	NNW	Fine	Sno.	Clo.

The quantity of rain during the month of November is 2 inches 10-100ths.

BILL OF MORTALITY *from November 19 to December 17, 1816.*

		Nov. 26.	Dec. 3.	Dec. 10.	Dec. 17.	
CHRISTENED.	**Males**	196	259	495	179	
	Females	166	249	467	188	
		362	508	962	367	**Total, 2199.**
BURIED	**Males**	174	204	450	159	
	Females	185	217	481	163	
		359	421	931	322	**Total, 2035.**
OF WHOM HAVE DIED	**Under 2 Years.**	103	112	246	95	
	Betw. 2 and 5	37	38	94	33	
	5 and 10	15	22	35	20	
	10 and 20	13	8	31	13	
	20 and 30	26	27	72	20	
	30 and 40	32	39	95	23	
	40 and 50	33	48	91	29	
	50 and 60	33	41	~~85~~ 79	34	
	60 and 70	28	34	58	24	
	70 and 80	20	29	58	20	
	80 and 90	14	18	35	9	
	90 and 100	5	5	10	2	
SMALL POX		23	26	42	10	**Total 97.**

A REGISTER OF DISEASES

Between NOVEMBER 20th, and DECEMBER 19th, 1816.

DISEASES.	Total.	Fatal.	DISEASES.	Total.	Fatal.
Abortio	20		Epistaxis	14	
Abscessio	13		Erysipelas	13	
Acne	3		Erythema *lave*	2	
Amenorrhœa	27		—— *papulatum*	2	
Amentia	3		Exostosis	2	
Anasarca	20	4	Febris *intermittent*	6	
Aneurisma	1	1	—— *catarrhalis*	66	1
Anorexia	6		—— *Synocha*	16	
Aphtha *lactentium*	7		—— *Typhus mitior*	14	1
—— *anginosa*	1		—— *Typhus gravior*	4	2
Apoplexia	9	6	—— *Synochus*	28	
Ascites	6		—— *Puerpera*	1	
Asthenia	35		—— *remit. Infant*	28	
Asthma	89	8	Fistula	2	
Atrophia	3	2	Furunculus	4	
Bronchitis *acuta*	10	3	Gastrodynia	28	
—— *chronica*	8	1	Gonorrhœa	18	
Bronchocele	2		Hæmaturia	2	
Bulimia	1		Hæmoptöe	19	
Calculus	2		Hæmorrhois	24	
Cancer	7	2	Hemiplegia	14	2
Carbunculus	2		Hepatalgia	5	
Cardialgia	21		Hepatitis	10	1
Carditis	1		Hernia	4	
Catarrhus	163		Herpes *Zoster*	6	
Cephalalgia	40		—— *circinatus*	2	
Cephalæa	4		—— *labialis*	2	
Chlorosis	11		Hydrarthyrus	2	
Chorea	3		Hydrocele	2	
Cholera	13		Hydrocephalus	9	7
Colica	39		Hydrothorax	5	1
—— *Pictonum*	6		Hypochondriasis	15	
Contractura	1		Hysteralgia	1	
Convulsio	6		Hysteria	27	
Coryza	2		Hysteritis	2	
Cynanche *Tonsillaris*	29		Icterus	8	
—— *maligna*	3	1	Impetigo *figurata*	2	
—— *Parotidea*	12		—— *sparsa*	4	
Diarrhœa	89	1	—— *erysipelatodes*	8	
Dysenteria	15	3	—— *scabida*	7	
Dyspepsia	88		Ischias	3	
Dyspnœa	27		Ischuria	2	
Dystocia	3		Lepra	1	
Dysuria	12		Leucorrhœa	14	
Ecthyma	2		Lichen *simplex*	4	
Eczema	5		Lithiasis	4	
Eneuresis	9		Lumbago	5	
Enteritis	7	2	Mania	7	1
Entrodynia	30		Melancholia	10	1
Epilepsia	3		Menorrhagia	38	

DISEASES.	Total.	Fatal.	DISEASES.	Total.	Fatal.
Miliaria	2		Psoriasis *inveterata*	3	
Morbi *Infantiles**	103	2	Pyrosis	9	
Morbi *Biliosi**	60		Rachitis	3	
Nephralgia	1		Rheumatismus *acutus*	48	
Nephritis	6		———— *chronicus*	67	
Neuralgia	2		Roseola	5	
Obstipatio	36		Rubeola	45	3
Odontalgia	6		Scabies	56	
Ophthalmia	30		Scarlatina *simplex*	19	
Otalgia	3		———— *anginosa*	7	
Palpitatio	2		———— *maligna*	3	1
Paracusis	2		Scirrhus	3	
Paralysis	15	1	Scrofula	16	
Paronychia	10		Spasmi	7	
Pemphigus	6		Splenitis	1	
Peripneumonia	19	2	Strictura	6	
Peritonitis	3		Strophulus *intertinctus*	5	
Pernio	34		———— *confertus*	1	
Pertussis	27	2	Sycosis *menti*	2	
Phlegosis	11		———— *capillitii*	1	
Phthisis *Pulmonalis*	45	18	Syncope	5	
Plethora	7		Syphilis	40	
Pleuritis	21	1	Tabes Mesenterica	5	2
Pleurodyne	9		Tetanus	2	
Pneumonia	43	11	Tympanites	1	
Podagra	11		Vaccinia	75	
Polypus	1		Varicella	18	
Porrigo *larvalis*	6		Variola	30	6
———— *scutulata*	5		Vermes	22	
———— *favosa*	3		Vertigo	27	
Prolapsus	6		Urticaria *febrilis*	4	
Prurigo *mitis*	3		———— *evanida*	3	
———— *senilis*	3				
Psoriasis *guttata*	3		Total of Cases	2533	
———— *gyrata*	4		Total of Deaths		92

* *Morbi Infantiles* is meant to comprise those Disorders principally arising from dentition or indigestion, and which may be too trivial to enter under any distinct heads; *Morbi Biliosi*, such Complaints as are popularly termed *bilious*, but cannot be accurately classed.

Observations on Prevailing Diseases.

THERE has been frequent occasion to note a remarkable degree of mortality during a particular period, without any known corresponding cause, either from atmospheric variation, or prevalence of fatal epidemics; but we have never recorded any instance more marked than the Weekly Bill of Mortality of the 10th of December displays, when contrasted with the Bill of the preceding and succeeding week: the deaths are more than double the usual number throughout every period of life. By a singular coincidence, the christenings bear the same extraordinary disproportion as the deaths to any former return. But it should be remembered that the errors in the Bills of Mortality are so numerous and manifest, that little reliance ought to be placed in them, either in a medical or statistical point of view.

The same class of diseases has prevailed through the last as in the former month; but attended with more of the inflammatory character. Many have complained of severe spasmodic affections about the præcordia.

Rubeola is increasing, and in some Districts is very fatal. The same may be observed of *Pertussis*.

MONTHLY CATALOGUE OF BOOKS.

Transactions of the Medical Society of London, Vol. I. Part II.

Practical Observations on the Diseases of the Urinary Organs. By John Howship, Memb. of the Roy. Coll. of Surgeons. 8vo. with four coloured plates.

Surgical Observations, Part II. By C. Bell. 8vo.

Medical Suggestions for the Treatment of Dysentery, Intermittent and Remittent Fevers, as generally prevalent at certain Seasons among Troops in the Field. By E. S. Somers, M. D. 8vo.

An Experimental Inquiry into the Effects of Tonics and other Medical Substances on the Cohesion of the Animal Fibre. By the late A. Crawford, M.D. F.R.S. 8vo.

Observations on the Structure of the Brain, comprising an Estimate of the Claims of Drs. Gall and Spurzheim to Discovery in the Anatomy of that Organ. By John Gordon, M.D. F.R.S.E. 8vo.

An Essay on the Common Cause and Prevention of Hepatitis. By Charles Griffith, M.D. 8vo.

A Treatise on the Coal Mines of Durham and Northumberland. By J. H. Holmes. 8vo.

NOTICES TO CORRESPONDENTS.

From the length to which the HALF-YEARLY RETROSPECT *has unavoidably extended, the* ANALYTICAL REVIEW, SELECTIONS, FOREIGN INTELLIGENCE, *&c. &c. are omitted. The same apology the* EDITORS *are certain will be received by several valued Correspondents, for postponing the insertion of their communications.*

As Mr. Cole *has not yet answered our query respecting the case he sent us, we have been obliged to defer it.*

We are proud to notice the receipt of many additional favours; among which are those of Professor Carlisle, Dr. Granville, *containing much novel and interesting matter from the Paris School,* Dr. Whitlock Nicholl, Dr. Camell, Dr. Reid Clanny, Mr. Brookes, Mr. Gaitskell, Mr. Syer, Mr. Hastings, Mr. Oakley, Mr. Dunn, Mr. Daniel, *and various* Authenticated Cases.

The Letter signed Scepticus, Dr. Burrows *would have noticed much earlier, but he was first desirous of ascertaining the correctness of the statement which was objected to.* Dr. B., *having now satisfied himself on that subject, is ready to remove the doubts of* Scepticus, *if he will inform* Dr. B. *of his name and address.*

◆

Communications intended for insertion in the subsequent Number should be sent before the 12th of the month; and should be addressed (free of expense) to Mr. Shury, *Printer, 7, Berwick Street, Soho; by whom Books for the Reveiw Department, Articles of Intelligence, &c. &c. will also be received.*

This Publication, by application to the Clerks of the General Post Office, London; or, if previously ordered, of the Post Masters, British or Foreign, will be sent to any of the British Colonies or Foreign Countries, upon the same terms as other Periodical Works.

THE
LONDON MEDICAL
REPOSITORY.

No. 38. FEBRUARY 1, 1817. Vol. VII.

PART I.

ORIGINAL COMMUNICATIONS.

I.

Remarks on the present unsettled State of Opinion about the Venereal Disease. By Anthony Carlisle, F.R.S., Surgeon Extraordinary to His Royal Highness the Prince Regent, Surgeon to the Westminster Hospital, and Professor of Anatomy to the Royal Academy.

In the early part of my professional life I was induced to believe that the disease in question was, above all others, the most controlable by the art of medicine. The cheering results of numerous successful cases then proved to be some compensation for the grievous disappointments, as to medical efficacy, which every sanguine practitioner is doomed to meet throughout the stage of youth.

The prevailing doctrines among the best-informed surgeons of the metropolis twenty years since, asserted, that the constitutional infection was curable by a known specific—mercury: and that its safest and most efficacious administration was by inunction: that the cure depended upon the combination of a sensible mercurial influence upon the system, evinced in the mouth; with an uninterrupted duration for a given time: that different states of the disease required more or less of this united influence and duration; and that neither a long continued administration of mercury, without a due degree of influence, nor an excessive influence without a due continuance, were permanently efficacious. But these sober results of experience and sound judgment seem to be yielding to wild and illogical opinions. Some of them, perhaps, springing from the eloquent effusions of an ingenious gentleman who graces his profession; while others proceed from the unworthy mysteries of a gloomy and unorthodox practitioner, who assumes to claim an exclusive profundity in one line of his profession.

However unthankful the office, or ungracious the task, I cannot justly withhold the declaration of my own experience upon some of the most difficult points which now distract junior surgeons, and which I find to be daily creating discreditable differences in the decisions of professional men. Having no fondness for obtruding myself among my brethren, I should not now trespass upon them, had it not been for a partial diffusion of my views through the medium of Lectures on Surgery, and which are discontinued, since the urgent duty of instructing a numerous class of pupils for the Army and Navy has ceased with the war.

As it will probably be allowed that experienced men are alone capable of estimating the more intricate evidences of disease, and of forming a just judgment of the uncertain merits of medical treatment, I feel the better satisfied with this endeavour. Perhaps the best contribution which I can now offer, is the statement of some positive evidences which characterize the venereal disease, and the mention of several extraordinary affections which eventually proved to have been venereal.

The constitutional disease appears to be capable of two states; viz. an active, positive, and well-marked set of symptoms; and an obscure and chronic state, sometimes difficult to be distinguished from other disorders. In every instance it seems to me that the virus shows itself by producing an *external* inflammation: but whether the active and the chronic kinds are the result of different quantities of the existing poison, or of peculiarities in the constitution of the individuals, I will not pretend to determine. If it can gratify any reader who wishes to prosecute such profound inquiries, I frankly tell him that my opinion is in favour of the first hypothesis. It is not known what the minimum quantity of venereal virus may be which is sufficient to infect the human system; if very minute, the disease would be infinitely communicated by the numerous and unavoidable contacts which happen in social life.

Assuredly the first infecting particles of the venereal virus are liable to create an unlimited augmentation of the same kind of matter in the human body; and this increase seems to take place under the influence of local and external inflammations; whether they be blotches, ulcerated throat, general exulceration of the cutis, nodes, ophthalmia, &c. These symptoms are also severally liable to abate and alternate, spontaneously, or, perhaps, under the influence of atmospheric temperature.

To define any certain symptom or symptoms which clearly mark this disease, would be a valuable contribution to medical knowledge; but the varieties of human skill and of human dispositions almost forbid such an hope. There is, however, one sign which I have never found to deceive me whenever it occurs; and that is in ophthalmia, where the pupil is irregularly contracted, so as to destroy it's circular appearance. The venereal inflammation of the iris draws the pupil into corners, or angular lines; at first it is often accompanied by a muddiness of the transparent front of the eye; but whether in the aqueous humour, or in the cornea, is not certain. The same inflammation, when very active, generally extends to the choroid membrane, and renders the eye highly irritable to light.

Whenever the pupil is thus deformed, and any other, even equivocal, signs of syphilis exist, I deem it a sufficient evidence for the employment of mercury. I have often seen the venereal ophthalmia put on the chronic type, and in one instance the choroid veins, in a distended varicose state, protruded through the pupil. The whole globe of the eye was at the same time much enlarged, and the organ was totally spoiled. After a seven weeks' course of mercury, the eye recovered its natural size, the veins disappeared, and a partial vision returned. In another example I saw a distinct venereal ulcer, with a protruding margin, upon the iris, discharging pus into the aqueous chamber, and which was shewn at the time to all the students of the Westminster Hospital. It healed during the second week of the mercurial course, and all the attendant venereal symptoms dispersed at the close of the seventh week.

Another distinguishing mark of the venereal disease, and which I have often received as the leading and conclusive evidence whereon to ground the treatment, is the existence of gummi. Those swellings appear to be formed in the adipose membrane, and their locality is not regulated; they are usually the concomitants of an obscure state of the disease; they seem especially to follow the inefficacious use of mercury, or a mild form of original infection. They are more often a ternary and distant recurrence of the disease, than a secondary and speedy re-appearance. They most frequently arise in apparently ill-conditioned habits, and are slow in their progress. I have many times adopted this leading symptom to decide upon the case when all the other evidences were unsatisfactory.

In all the constitutional venereal affections there is more or less of a cadaverous aspect, which an experienced eye readily detects, and which, being added to the other circumstantial evidence of the disease, may justify a professional opinion. During my practice I have once seen a distinct venereal pneumonia, and which instantly subsided on the efflorescence of an excessive crop of venereal blotches. The pneumonia had been treated in the regular way by a physician, without any benefit resulting, and that disease occurred six weeks after an extensive chancre; the patient himself being of the profession.

On another occasion I attended a well-marked sluggish carbuncle, which sloughed away the deltoid muscle down to the naked capsular ligament. The disease continued to advance, until I detected a venereal blotch. Mercury stopped the further ravages of the carbuncle, and cured the patient of a number of obscure venereal symptoms.

There is an herpetic abrasion of the cuticle, sometimes on the breast or abdomen, which looks like venereal blotches; it is less deep in the skin; it has less of an inflammatory base; and is not so distinctly circumscribed as the true venereal blotch: it never forms a purulent crust; but is simply a furfuraceous scaling of the cuticle. This herpetic affection seems to be produced by a disordered stomach and liver.

I cannot help adding my humble protest against the modern sub-divisions of surgery, for the pretended special treatment of particular disorders. It seems to me that the whole plan is founded in error, and too often greedily pursued by sordid pretenders. This quackish delusion was long foreseen by the wise Lord Bacon, who, in treating of the danger attendant on cultivating knowledge by separate parts, says, "And in particular sciences we see, that if men fall to subdivide their labours, as to be an oculist in physick, or to be perfect in some one title of the law, or the like, they may prove ready and subtle, but not deep or sufficient, no, not in that subject which they do particularly attend, because of that consent which it hath with the rest."* I hope, however, that this error is about to be remedied, and that no English physician or surgeon who considers the duties of his profession to extend beyond the sordid gathering of wealth, or of promoting the undeserved fortunes of others, will lend his name and support to such mischievous jobs.

II.

Case of Disease of the Brain which had been confounded with Hepatic Disease, with the Dissection, and some Observations,

By Robert Camell, M.D. of Bungay, Suffolk.

In attempting to elucidate the diseased structure by dissection, we too frequently have to lament the insufficiency of medical art. Nevertheless it is from morbid examinations only that we can expect a correct view of diseases, and to establish a successful practice for their cure.

It is a remark equally trite as true, that medical men are generally mistaken in their own maladies; and it is with the intention of guarding them against this common and fatal error, by which they not only deceive themselves, but mislead the judgment of others whom they consult, that I am chiefly induced to publish the following case. I think too, that it will shew, that practitioners of eminence in their profession sometimes mistake the action of sympathizing organs for that of idiopathic disease; and that it tends to confirm two physiological facts: first, that such an alteration in the structure of the brain may take place, as greatly to derange the functions of the viscera concerned in digestion, and when existing in certain parts of that organ, may even destroy life without inducing paralysis or much aberration of the mental powers. Second, that the ventricles of the brain may be filled with fluid without all the characteristic symptoms of hydrocephalus internus.

CASE.

A medical man in the meridian of life, of much celebrity, and possessed of an acute and penetrating judgment, was from every appearance free of constitutional disease, and though not strong, might be deemed healthy; for during the last nine years of his life, he supported with little interruption the fatigues of an extensive country practice; but at intervals he had had occasional recourse to blood-letting, intimating to several of his medical friends, that if it were not for the relief thus afforded him, he should be unable to sit his horse.

About two years since he had symptoms of deranged functions of the liver, which terminated in jaundice. These complaints however went shortly off from the use of the ordinary means, and left him in his usual health. He had afterwards, at intervals of some weeks, head-ache, with considerable dyspepsia and a sluggish state of the bowels. For the origin of these symptoms, he constantly referred to the hepatic system, and as constantly had recourse to the *hydrargyri submurias* with bleeding and purging. Still he was not, during the period of twelve months that he continued ill, at any time confined.

About the 5th of October 1815, he was seized with a very violent degree of head-ache, accompanied with pyrexia. He described the pain as being similar to what might be conceived to be the effect of a musket-ball occupying the centre of the cranium, and upon the least motion, rolling from one part of the head to the other, breaking down before it the texture of the brain. For the relief of this intolerable attack, he bled himself very freely, losing from the arm, and by cupping in the course of two or three days, not less than fifty ounces of blood.

He took repeated doses of hydrargyri submurias, with saline and other purgatives, and was so much reduced, that when I first saw him, his pulse was exactly what is observed in females after profuse uterine hæmorrhage; in short, he appeared nearly ex-sanguined. As soon as he could be persuaded to abate his depleting practice, and sufficient time had passed for the constitution to recover from the effects of it, he recovered his previous state of health and appearance. On the 20th of November he was pursuing his wonted professional avocations, to the fatigue of which was added that of frequent social visiting, suppers, and late hours; and this course he continued with little or no abatement till the following summer. He indeed complained at times of his liver not being right, and that his food did not digest; still in the alvine discharges no want of biliary secretion was observable, and his urine was natural. He had occasional recourse to bleeding, hydrargyri submurias, and other purgatives; and towards the month of July last, the repetition of these was more frequent from more frequent returns of what he called his liver complaint, now attended with head-ache and spontaneous vomitings. These vomitings were generally in the morning, and sometimes consisted of mere gastric juice, sometimes of indigested food, or of bilious matter. He wasted; his countenance altered greatly, and he was again unable to follow his professional pursuits. In July he visited London and Cheltenham, in each of which places he consulted a physician of the first eminence. They both considered the symptoms I have detailed as arising from irregularity in the functions of the liver, with consequent dyspepsia. Whilst at Cheltenham, he tried the saline water; of which, in a letter I received from him, he complains as being in his case totally inert: "I have always," he writes, "considered my complaint to be (and in this I am confirmed by the opinion of those I have consulted here) an irregular action of the liver, kept up by the irregular manner in which my professional engagements compelled me to treat it, and I did hope, if I gave myself rest, and daily took some mild purgative gently to keep up some secretion from the liver, it would be sufficient to unload and restore that sluggish organ to healthy action; but I find there is too much disease to be so easily removed. I must use a remedy that will have a deeper effect, and therefore I have no chance but in the adoption of a mild mercurial course."

Before he went this journey, I cautioned him against misleading the high authorities he was about to consult, and begged of him to turn his attention to the head, as the most probable seat of his disease; and not to neglect such local means as were calculated to divert any diseased action going on there. This opinion, as appears by his letter, he could not reconcile to his own, and he returned home early in the month of August more emaciated, and in all respects worse than when he went. His head-aches were more frequent and violent, extending from the occiput to the forehead; few were the articles of food that passed properly converted into the duodenum. Little indeed was retained by the stomach; the bowels were torpid; the pulse seldom above seventy, and sometimes slower.

August 12th.—Although still adverse to my opinion, he now submits in part to the means I recommended. Twelve ounces of blood were taken from the jugular vein, the head was shaved, and a blister-cap applied; a seton in the neck was also recommended, but to this he would never consent.

August 13th.—Slept well; pain greatly relieved; intervals of ease longer. Took pil. rhei. comp. daily, with hydr. submur. gr. ii. Tongue coated.

17th.—Pain returns every morning after profound sleep, with bilious vomiting.

20th. — Morning sickness continued. Other symptoms the same. Takes soda water, with a small proportion of iron.

September 10th.—Continues with little variation of symptoms or medicines. Debility increased. Pulse 64, and intermitting.

20th.—Pulse 70, and full; bowels torpid; a cathartic enema injected; vomited on rising from his pillow; and, after the operation of the enema, fainted.

22nd.—Pulse 64, vomited green bile, and had a slight convulsion; on recovering from which, he said he felt a sense of numbness down the arms. Hirudines decem applicentur temporibus. Has frequent eructations, as he calls them; but which appear like those spasmodic affections of the diaphragm observable in the course of many diseases when the sensorial power becomes insufficient for the performance of the visceral functions.

25th.—Scarce a morning has passed without bilious vomiting, or a day without singultus. No strabismus. Pupils not dilated, but complains of indistinct vision. Pulse that of oppressed sensorium, 66, and intermitting. Voice altered, resembling at times that of a patient labouring under ulceration of the velum pendulum palati.

27th.—Had another slight convulsion. In other respects as last described. Has had a better appetite during the last ten days, and kept down more food, particularly game. Expresses his conviction of debility in the digestive organs being the cause of all his sufferings, but says he has not one fatal symptom. Took, by his own desire, infus. gent. comp. with vinum ferri, but soon discontinued it, thinking the iron increased his head-aches. The last symptom now became periodical, and was relieved only by temporary pressure on the head. In the intervals of pain, he is often in good spirits, and as capable of reasoning upon any subject as he had ever been. Does not bear motion well, and says, "to stoop would kill him."

Mr. Dalrymple, of Norwich, visited him, and thinks, with me, that congestion or some other cause of pressure exists in the brain. As a substitute for the seton, he has recommended a perpetual blister to the nape of the neck, and that the bowels be kept loose with infus. sennæ amar., or small doses of aloes.

October.—No material change in the symptoms, except that ten minutes conversation or attention to any subject brings on violent fits of pain in the occiput, and sometimes convulsions. Emaciation increases, although more food has been taken and retained.

2nd.—Went by his own desire to Southwold, a journey of eighteen miles, which he performed on a bed in an easy carriage without more fatigue than he had before frequently experienced. He continued there, with no great deviation from the state already described, till the 7th and 8th; when, to those about him, he appeared better; was in pretty good spirits, and talked of future projects in life.

9th.—Complained early in the morning of violent pain in the head and stomach, and of a degree of oppression he had never before felt, observing to one of his attendants, that "his race was run." At two o'clock P. M. he was seized with a convulsion, his arms became in some degree paralytic, and he expired.

SECTIO CADAVERIS.

On the 11th of October, in the presence of Mr. Henchman Crowfoot and myself, the body was opened by Mr. Arthur Browne, whose accuracy of dissection and anatomical discrimination afforded the most complete and satisfactory demonstration.

All the viscera, except two discoloured spots on the *intestinum ileum*, which had the appearance rather of congestion on the villous coat than the result of inflammation, were perfectly sound. The *liver* was *particularly* healthy throughout.

In the HEAD, the *lateral ventricles* were unusually distended, and contained four ounces of colourless fluid; the foramen under the septum lucidum was enlarged, as is common to such collections of water. The *plexus choroidès* were pale, with a small hydatid at the extremity of each ventricular portion.

On the inferior part of the left lobe of the *cerebellum*, and invested by the pia and dura mater, was an encysted tumour the size of a French walnut, besides a vesicular portion connected with it, containing some yellow serum. The tumour was attached by a small pedicil to the substance of the cerebellum, where, by gradual increase and pressure, it had formed a complete bed; and from which, by means of the flat ivory handle of the knife, it was turned out as a ripe walnut from its green husk.

On the opposite lobe, exactly corresponding with this tumour, and covered also by the tunics of the brain, was a florid mass of the size of a large pea; it resembled a production of new vessels, and, had life continued, would probably have constituted a similarly diseased substance.

OBSERVATIONS.

It would be very desirable, if from the preceding narrative any practical inferences could be drawn, or any judgment formed, by which we could with some degree of certainty, in the early stage of similar diseases, decide between those of visceral and those of cerebral origin.

When it appears, as in this case, that any food taken into the stomach produces pain of the head, or, in the language of the late Mr. John Hunter, "whatever acts on the sympathizer, excites also the sympathent;" then arises the difficulty of discrimination, and I feel something like apprehension of becoming hereafter subject to the very delusion I am solicitous to avoid. I thus express myself from respect to the acknowledged medical abilities of the late subject of my case; and in reference to the fact, that of the number of eight professional men, including the physicians whom he consulted, only two appeared to have any decided opinion as to the true seat of his disease. This affords a striking proof amongst many others, that the late able and useful researches into the morbid structure of the liver, have obtained such an influence over the theory and practice of the faculty, as to establish a too general habit of attributing to the state of that viscus almost every disorder of the head and stomach. That this theory, however applicable to many cases, is sometimes carried too far, and, especially in this instance, cannot, I think, be disputed.

With a desire of obtaining the most beneficial inference from the case, and with a view to further discrimination, it may be useful to call the attention to a disease the most likely to be confounded with it, viz. the *sick head-ache*. Even in this disorder, one cause of which has been attributed to the deranged functions of the liver, and which may sometimes participate, the symptoms are dissimilar. This species of cephalalgia seems more justly ascribed to the effect of a gaseous product of indigestion, which, passing up the œsophagus, is perceptible in the breath of the patient, and being mixed with it, stimulates to an increased secretion the mucous glands about the rima glottidis and upper part of the aspera arteria; for few are subjects of the sick head-ache who are not more or less affected with tracheal, or what has been called by some stomach cough.

By the action of this gas on the stomach itself, or on the respiratory organs, or perhaps on both, the optic nerves, from torpor and fulness of the internal carotids, become next affected, and luminous spangles appear to dart in different parts of the room; these, however, are so transient, that it is difficult for the patient to identify the spot where he saw them. As yet no pain is felt; but in five, ten, or fifteen minutes, if not prevented by some alcohol taken into the stomach, a sense of torpor and fulness affects the temporal arteries; this is succeeded by violent pain in them, in the eyes, and across the forehead; but the hind head is rarely if ever affected. Sickness often comes on, but not invariably; and abstinence, any medicine or exercise which accelerates the passing of the indigestible contents of the stomach, will effect a complete cure of the paroxysm.

Where head-ache and sickness are unattended with tension, tenderness, or pain, in either region of the stomach or liver; where no sympathetic affection of the shoulder is felt; no apparent want of biliary secretion in the alvine discharges, or unnatural state of urine is observed; why ascribe to the liver the disordered head and stomach? On the contrary, I may remark, that in the case under discussion, the vertiginous sense of fulness in the head, before the dyspeptic symptoms prevailed, was a leading feature; and, if properly attended to, might perhaps then have induced some useful means of arresting the progress of the disease. Afterwards, the vomiting succeeding sleep and a recumbent posture, and which could not be prevented either by abstinence or evacuation; the slow pulse; the singultus; and latterly the dread of stooping; the numbness of the arms; the periodical pains in the occiput, followed by convulsions; were indications of vascular disease sufficient, one would think, to have been decisive; and certainly must have been so to every one, but for the cause I have stated.

These diagnostics may, I presume, on any similar occasion, however slight the chance of success, possibly lead to an earlier and more effectual curative attempt, in assisting general remedies with a more prompt and steady application of local means, such as arteriotomy, cupping, blisters, and setons.

I must now be allowed to finish with the following queries: Might not the disease be of asthenic origin? and might not the system of depletion have been carried to an injurious extent?

III.

Case of Phrenitis. By J. Whitsed, Peterborough, Member of the Royal College of Surgeons, London.

Mrs. F., of Peterborough, desired me to visit her son, fourteen years of age, whom I found dejected in spirits, frequently knitting his brow, and complaining of darting pains in the head. If I asked him a question relative to his feelings, he was but little communicative, and answered me chiefly with tears and sobbing. He was a boy naturally of the most lively disposition; this change therefore in his manner, impressed me the more strongly with a belief that his symptoms were of serious import. I was informed by his mother, that he had returned from Litchfield a few days before, where he had lately been in the service of the Rev. Dr. M. She farther stated, that the boy had been delighted beyond measure with the prospect of seeing his parents; and at the onset of his journey, had walked twelve or fourteen miles, in doing which, he had heated and fatigued himself. The very worthy and respectable family with whom he lived, and who at this time were also abiding temporarily at Peterborough, had recently noticed an alteration in the lad's behaviour, which, in some instances, was so odd and unaccountable, that they knew not whether to attribute it to youthful levity or to an impaired intellect. He was accordingly sent home for a few days to try what a little intercourse with his friends would effect. One remarkable trick he was guilty of may be noticed, to shew the singularity of his actions about this period. Seeing a fine piece of beef roasting at the fire, he took a knife, cut it across in various directions, and, I believe, completely spoiled it for the table. Though the act might have appeared idle and mischievous only, I could not help considering it as an additional proof that his brain was organically affected; and had I been put in possession of this and similar facts when I first visited him, my treatment would certainly have been more active.

His pulse was now not more than eighty, the vessels of the tunica conjunctiva were rather turgid; and with the view of lessening determination to the head, I took a few ounces of blood from the back part of his neck with the cupping instruments, administering also some pills of calomel and colocynth, the operation of which was encouraged by a saline purging mixture. On the following morning, (October 15th,) the pain of his head was somewhat increased, he had passed a restless night, and his countenance betrayed much anxiety. His pulse too was rather more hurried than yesterday, but not full. I took twelve ounces of blood from his arm, continued the use of the purging mixture, and applied a blister to the nape of the neck. In the evening the pain of his head remained unabated, he was exceedingly restless, and his look denoted great wildness. Venesection was repeated to the same extent as in the morning. I desired that the head might be shaved, and cloths, dipped in cold vinegar and water, applied very frequently to the bare surface of the scalp. The opening medicine had operated copiously during the day, and the stools were offensive. Powders of antimony, with nitre, were now ordered to be taken every four hours, combined with a saline febrifuge mixture; and an opening draught was directed to be repeated early in the morning. Upon visiting him the next day, his symptoms had materially abated. I found him perfectly rational and quiet, complaining of scarcely any pain in his head: his pulse was little quickened, and his skin disposed to an equable and moderate diaphoresis. The aperient draught had produced the desired effect, and he was ordered to continue the antimonial medicine every four hours. In the evening of the same day, (16th,) his appearance was still favourable, and I was cheered with the hope that the depleting means which had been resorted to, were producing the most happy results. In the course of the night, however, he became delirious, talked almost incessantly, and was with difficulty restrained from leaping out of bed. Being summoned to him early in the morning of the 17th instant, I discovered that his symptoms had returned with augmented violence, and I immediately bled him to the amount of about ten ounces. I gave him calomel, antimony, and colocynth in pills, and repeated the purging mixture. Two hours after I quitted the house, I was commanded to re-visit him in haste, and found, on my arrival, that the family had been greatly agitated by his sudden appearance in the yard. He seized an opportunity, a minute or two after his mother had left the room, to jump out of bed, run down stairs with no other covering than his shirt; and in his hurry to escape out of doors, being heedless of every object in his way, he bruised his lower extremities. I took more blood from his jugular vein, and ordered a blister on each leg.

Evening, six o'clock. The symptoms were unabated. Abstracted about eight ounces of blood.—Ten o'clock. No material alteration in his symptoms. A state of great restlessness and incoherent talking—pulse 100. The tongue, which had never been quite clean from the period of my first visit to him, was whiter than before. My assistant, by removing the ligature from the arm, suffered the vein to bleed again. The quantity of blood taken at each venesection was not accurately ascertained, but it varied from six to twelve ounces. Medicine repeated.

18th instant. He had passed a very unquiet night, and his delirium had evidently increased. His pulse had risen to 120. The pupil of the right eye began to be a little dilated. He was bled again this morning, and the urgency of his symptoms induced me to repeat the operation in the course of the day. The exhibition of the antimonial medicine was continued, regard being also paid to the state of his bowels, which were still purged.

He frequently in this stage of the disease bit his brother and other attendants; frothy saliva being at the same time emitted in considerable quantity from his mouth. His proneness to seize people with his teeth, was shewn until within a very few hours of his decease. At night his pulse had risen to 140, and at twelve o'clock his relations became so much alarmed by his incessant raving, that Mr. Spence, my assistant, upon being called to him, was induced to give him twenty-five drops of the tincture of opium. This appeared to render him still more restless, and when I visited him in the morning, I determined to try the effect of repeated doses of opium. A grain therefore was administered every hour; at noon he was as wild and restless as ever, but when he had taken ten grains he became more composed. Previous however to the expiration of the hour or time when the medicine was to be repeated, he relapsed into a state of wakefulness, and it was only by steadily persisting in the employment of opium, so as to procure some duration of undisturbed sleep, that I anticipated the least chance of his amendment. Another blister had been applied near the head to-day. His pulse at night beat 160 in the minute; the pupil of the right eye was considerably dilated; that of the left did not appear to contract upon applying a strong light, as he lay in a state of coma. He died early on the following morning.

DISSECTION.

Upon removing the calvaria, the dura mater, as is usual with young subjects, was found to adhere very firmly to the inner table of the skull, and some of the branches of the arteria spinosa (especially towards the base of the cranium) were a good deal distended with blood. In the posterior part of the longitudinal sinus, parallel to that point of the sagittal suture which is joined to the lambdoidal, there was a small quantity of red frothy blood. The vessels of the pia mater were extremely turgid, and this membrane throughout exhibited marks of inflammation. Nothing was discovered in the substance of the brain itself, upon making a section of the hemisphere to expose the corpus callosum; nor was there any morbid appearance in the right lateral ventricle; but in the left, about half an ounce of water was deposited. The vessels of the plexus choroides in either ventricle were not at all turgid, but resembled a band of pale coagulated lymph. Water was also found in the third and fourth ventricles, but in less quantity than in the left lateral ventricle.

IV.

A Case of Hydrocephalus, successfully treated. By KENRICK WATSON, of Stourport, Worcestershire, Member of the Royal College of Surgeons, London.

IN a former communication (vide the 4th volume of the *Repository*, p. 278,) I detailed the case of hydrocephalus of Master G. H., with the appearances upon dissection. With respect to that case, I am decidedly of opinion that the disease *commenced* in the brain, and that all the symptoms were occasioned by effusion upon that viscus. I have now to report a second case, in which the symptoms were analogous; but which evidently depended upon the brain becoming *secondarily* affected; the cause of the disease being seated in the abdominal viscera.

S. Winnal, a girl aged seven years, had been observed to pick her nose very much during the last ten days, and her bowels had been in an irregular state. At the age of two years she was ill several weeks with remittent fever, and recovered with difficulty; but since then she had had good health. On Saturday, November the 5th, 1815, she came from school, and immediately ate a large quantity of chesnuts*. She passed a restless night, talked in her sleep, could not eat in the morning, and was observed to draw one leg after her.

On the morning of the 7th I saw her. She had not had her bowels moved since she came home, her skin was hot, she complained of pain when the abdomen was pressed upon; at times she screamed out most violently and threw herself about, her head was drawn back, and she would not suffer it to be raised on any account.

She was directed to take an emetic, and afterwards scammony with calomel every second or third hour till the bowels were purged.

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* The mention of chesnuts reminds us of the case of a gentleman who had suffered for some months very severely from dyspeptic symptoms; for the relief of which he had consulted several eminent medical practitioners in vain. Upon some occasion vomiting was induced; and he brought up a solid substance covered with a thick mucous, and weighing several ounces. Upon cutting into the mass, it was found to consist of portions of some species of nut, firmly compacted into a ball. The patient doubted that such could be the nature of the substance, as he could not remember having, for a very long time past, eaten any nuts. But at length he recollected, that about six-months before, hunting, and being very hungry, he had eaten in the field a considerable number of chesnuts. After the ejection of this substance, he was restored to perfect health. —EDITORS.

On the eighth, as the medicine had not operated sufficiently, she continued the powders, and took salts and senna every second hour: and at night, on account of the violent screaming, she took three grains of Dover's powder with four of calomel, whilst glysters with soap were occasionally injected.

On the tenth, the lower extremities became paralytic, and likewise the bladder and the right arm; her bowels had been copiously moved many times; the evacuations were dark-coloured and slimy; she complained of pain when the liver was pressed upon; the abdomen was still full, the countenance better, and there was little heat of skin. Six leeches were applied to the hepatic region; afterwards a blister, and three grains of calomel were directed to be given every second hour.

12th. She had taken forty-eight grains of calomel during the last twenty-four hours: her stools were more natural, her bowels had been kept open by glysters, her nights were better, and her appetite began to return. She complained much of pain in her weak arm, which began to recover.

On the twenty-third, her bowels were still moved with difficulty, she took eight grains of scammony and calomel once or twice a day, by which her bowels were commonly moved twice. The bladder and lower extremities were still completely paralytic; but her appetite and spirits were much improved. Applicetur emp: lyttæ sacro. ℞. Tinct. cantharid: ♏. v. ter die, The limbs were ordered to be fomented with a decoction of horse-raddish, and afterwards friction to be used.

December twelfth. These means had been persisted in, and she was gradually recovering. She could now walk round the room by the help of the chairs, the arm was quite well, and the bladder had recovered its tone.

October tenth, 1816. She continued to recover, and is now in good health.

V.

An Experiment proving the Necessity of Caution in the Use of the Condensing Blow-Pipe, with some Observations. By T. W. Wansbrough, Fulham, Middlesex, Member of the Royal College of Surgeons, London.

The circumstance of Dr. Clarke's blow-pipe having exploded, has led me to submit the result of the following experiment to the notice of the public, which suggests, at least, the propriety of caution in all experiments made with Newman's condensing blow-pipe.

A gazometer, provided with a stop-cock, and capable of containing nine gallons of gas, was charged with half a gallon of *carburetted hydrogen,* commonly known as *coal gas,* and half a gallon of atmospheric air; the remaining portion of the gazometer was occupied by the water of the reservoir. Upon applying a flame to the cock, with a gentle pressure of my hand upon the gazometer, the usual blue flame was produced; when suddenly withdrawing the pressure of the hand, a most tremendous explosion took place that stunned me for several seconds. The explosion of this dreadful compound was such, as completely to throw the gazometer out of the reservoir, after raising eight gallons of water with it to the surface, and projecting the gazometer to the ceiling, a height of five feet above the level of the reservoir. The water in the gazometer of course became dislodged, immediately upon its coming above the surface of the water contained in the reservoir.

The terrific nature of the explosion, and the immense power which it appeared to have exerted in projecting a vessel, with such a body as eight gallons of water, to such a height, induced me to ascertain what was the degree of projectile force necessary for this result. Accordingly, I immersed the gazometer in the water of the reservoir to the same depth as in the performance of the experiment, viz. $\frac{8}{9}$ths, and applied a weight sufficient to raise it without the aid of atmospheric pressure; when I found it required *one hundred and twelve pounds* to effect it!

The violence of the explosion was discernible from the depth of the indent made in the ceiling; and had I not fortunately avoided the course of the gazometer, the consequences might have been serious. I must confess, had I been fully aware of the hazard attending this experiment, I should have been more cautious in conducting it.

There is at least one important fact deducible from this experiment; viz., that flame applied to a mixture of hydrogen and oxygen gases *cannot* produce *explosion,* unless the flame be drawn into the chamber containing them. It is evident too, that as the flame produced no explosion whilst I applied pressure upon the gazometer, the explosion was the consequence of the removal of it; and, as I am confident I saw the flame drawn into the gazometer through the stop-cock, it is obvious that if this be guarded against, no accident can ensue from the use of Newman's blow-pipe. In my humble opinion, this may be entirely prevented from occurring by a very simple precaution: viz. previously to the condensing blow-pipe which is to be used being employed, fill it entirely with the hydrogen and oxygen gases: then ascertain, *without the appli-*

cation of flame, how long it will require to completely exhaust it. If, for example, it will occupy three full minutes to expand the whole of the gases which the machine contains, let it be used for two minutes only *while the flame is exposed to its action*[*].

VI.

Remarks on the Administration of Blisters. By J. Syer, Surgeon-Apothecary, Atherstone, Warwickshire; and Author of a "Treatise on the Management of Infants."

As the welfare of mankind is not unfrequently reduced to a serious alternative through the effects of too much refinement in theory, or a total defect of it in the progress of our art, I consider an apology unnecessary for venturing to submit the following remarks, founded on actual observation, to dispassionate consideration; and I should feel the utmost satisfaction either to obtain concurrence, or to receive a candid and scientific refutation of them:

The subject to which I would beg leave to call attention, is, that of the administration of blisters; upon which the medical world is a good deal divided, and for the discretional use of which I profess myself a sanguine advocate; and having received a very unfavourable impression from the fatal issue of several cases that had occurred to others within the last twelve-months, where this remedy was omitted, as a steady friend to the best interests of my profession, although an obscure individual, I should not think myself justified in withholding my sentiments.

Unfortunately, in the whole circle of the sciences, there is no one so completely under the dominion of caprice and prejudice as that of medicine; and it may with truth be said, that when you want to remove a prejudice, it is very difficult to gain any attention: "You may talk," says a *prejudiced* man, "but you shall never persuade me!" And as Dr. Hey has well observed, when men are *much* prejudiced, they lose the sense of their being prejudiced at all.

In offering the following remarks, (which are to be regarded as clinical deductions derived from no inconsiderable share of observation and experience,) I beg to be understood as having no intention to depreciate the importance of depletion by the lancet, and by purgatives; for no one sets a higher value on these remedies; but to recommend the application of a blister as an essential auxiliary in internal inflammations; and that also in a more early stage of active disease, than some of our modern pathologists are willing to allow. Until within the period of the last twelve months, I had never contemplated the possibility of the propriety of early blistering being called in question. I presume it will be admitted, that there are few acute diseases more rapid in their termination, or more formidable to the practitioner, than phrenitis or pleurisy, to which we might subjoin peritonitis. If blisters, in conjunction with copious bleeding and purging, are so generally resorted to in these cases by those who have repeatedly witnessed their good effects, upon what principles, let me ask, can the application of blisters be defended? certainly on no other ground so obvious as that of exciting a new action on the skin, as near the part affected as possible; on a presumption also, that whilst we labour to induce a greater degree of external capillary action, and a determination to the surface, we proportionably relieve the internal excitement. How otherwise do blisters act in subduing the violent pain incurred in pleurisy, and with increased energy after general and local blood-letting in peritonitis? And if blisters are found to be capable of effecting these objects, can this remedy be well adopted too soon? Should we wait until a *new* action or a crisis had supervened internally, either by suppurative inflammation or the extravasation of serum? I should have very faint hopes of the utility of blisters beyond the third or fourth day of any acute universal disease, characterized by severe topical inflammation.

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[*] At the time of writing his observations, Mr. Wansbrough could not be aware of the improvement of Mr. Newman, which almost effectually sets aside the possibility of an explosion taking place, (see *Journal of Science and the Arts,* IV.); and of the blow-pipe invented by Mr. Thomson, (see *Repository,* vol. vii. p. 22, *in nota),* which is likely also to prevent the occurrence of such an accident; hence the caution of Mr. Wansbrough, however valuable in itself, becomes less necessary.—Editors.

As physiologists, we often find it an arduous task to decide upon the specific action of a remedy that has to travel the round of the circulation before it can exert any determinate effect; but there is not this difficulty in explaining the obvious advantages of blisters, although those who are sceptical may be unwilling to allow of their efficacy when employed in conjunction with, or preceded by, topical blood-letting in some instances. Those who are less inclined to theorize, may have some satisfaction in calling to mind an aphorism of the late Dr. Fordyce, "That inflammation excited by art, cures another in a neighbouring or more remote part." Those who oppose the early use of blisters, vindicate their omission, as conceiving them to add to the stimulus of diseased action already existing in the part. This argument appears more plausible than true, and indeed there is a variety of cases where, during the continuance of inflammatory action, a blister is indicated as a stimulus simply*, setting aside its peculiar action on the organization of the part as a remedy. Perhaps the only contra-indication to the use of a blister, is that of extreme irritability; but even here its effects might be moderated by the intervention of sedatives. I can certainly affirm, that I have witnessed a case where the practitioner, although an acute and zealous member of our profession, yet, through an anticipation of its deleterious effects, hesitated to apply a blister until all increased action had ceased in the organ affected; in other words, until death nearly closed the scene, when the capillaries had lost their functions, and the general irritability was destroyed.

There is no question, that at the commencement of acute internal inflammation, bleeding *ad deliquium*, and the reiterated use of the lancet, is indispensable; subject however to an infinite number of circumstances, and to be limited by them rather than by any extravagant dogmatical reasoning: but I should consider that the practitioner in this climate who would waver in his mind respecting the efficacy of an active blister after such evacuations, had lost sight of the first rudiments of medical knowledge; and that any theory attempting to supersede such practice in the present state of our knowledge, is perfectly indefensible. If the foregoing view of the use of blisters hold good in inflammatory diseases, I conceive that it applies more strongly to injuries of the head from external violence. I need cite no higher authority than the valuable cases brought forward by Mr. Abernethy in support of the use of blisters in cases of concussion of the brain, with or without inflammation of the pia-mater. The strong testimony of their efficacy in conjunction with general and local blood-letting makes me the more regret, that in some parts of the country the truth of his admirable diagnostics still lies dormant, or is counteracted by a considerable share of sophistry and prejudice. A similar remark might be made, (if I were allowed to digress from the single point with which I set out,) with regard to the omission of antimonials, modified by the occasional admixture of opiates in these cases, conformably to the practice observed in some of our London hospitals, from an objection founded on very shallow principles of reasoning; which it is one object of this paper to expose, not for the sake of a paltry love of controversy, but from a conviction of its extreme importance in a practical point of view.

I trust that I shall be excused for appearing to attach the more interest to this question, as being able to bear the most unequivocal testimony to the validity of Mr. Abernethy's remarks in this department of surgery, having paid the most unremitting attention to the progress of these accidents, while a student for a very considerable period in St. Bartholomew's Hospital, where a similar mode of treatment was constantly pursued to that which he so ably lays down; and, I should think myself justified in asserting, that had that gentlemen never contributed any thing else to our stock of surgical and pathological knowledge in general, beyond the limits of this essay, he would have conferred immortal honour on the profession. Let us appeal to what Mr. Abernethy says in the fifth section of his Observations on Injuries of the Head, on Inflammation of the Pia Mater. His explication of the utility of blisters in this case, incidentally confirms the opinion I have so earnestly indulged and extended to idiopathic inflammation: "large blood-letting, brisk purging, and *extensive counter-irritation* by blisters ought to be employed at the *very commencement*; for if omitted, the disease will then become *established*, (the point so much to be deprecated in all internal maladies,) and the powers of the body will soon be too much sunk to admit of the same active treatment at a later period."

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* For example, in those of stupor, induced by obvious determination to the brain.

I am willing to allow, that the constitution in a large city is not identically what we find it in the country; bleeding may be carried with advantage to a much greater extent in the latter; but still the indication of blisters remains in full force. There is likewise another remark of this valuable writer, which cannot be too strongly insisted upon; and the larger our sphere of practice, the more true it turns out; that "in the generality of cases of injury of the head, the symptoms of concussion, compression, and inflammation are so *combined*, as to appear inexplicable." If so, let me ask any candid or unbiassed practitioner, upon what authority, in various cases of injuries of the head, often attended with much obscurity, he would confide in any partial mode of treatment, particularly where the intellects and sensitive functions displayed a good deal of derangement, and the vascular system was but slightly disturbed; flattering himself, that if bleeding and purging did not cure the patient, that therefore blisters could have no title to confidence. Yet there is too much reason to fear, that practitioners are not unfrequently influenced by such prepossessions; and that this valuable remedy is suspended until its efficacy becomes truly precarious or nugatory.

If any theory here advanced should appear as visionary, I would be contented to let the facts upon which it is built abide the strictest test, for I wish to foster no hypothesis. I think the benefits to be derived from temperate and liberal discussion, in every department of our profession, incalculable; and most ardently wish that all those who embark in it would regard it in the same light as the ingenious Sterne, who said, "I reverence truth as much as any body; but when it has slipped us, if a man will but take me by the hand and go quietly and search for it, as for a thing we have both lost, and can neither of us do well without, I'll go to the world's end with him:—but I hate disputes." As our minds are too generally made up, and our prejudices have grown with our growth, by the time we are best qualified to enter upon controversy, it is not likely that we should often avail ourselves of the directions of this great author, although we may be allowed to cherish the sentiment, and be continually pressing on towards perfection.

The great aim of those of our profession who would distinguish themselves as the best friends to humanity, should be directed to the investigation of every class of remedies which have any claim to activity and safety in all situations of doubt and danger; nor can Cæsar's motto be better transferred than to the science of medicine: "*Nil actum credens, dum quid superesset agendum.*"

VII.

Case of Calculus in the Vagina of a Child. By HERBERT COLE, House Surgeon to the Worcester Infirmary.

MARIA DARLING, eight years old, was brought to the Worcester Infirmary, on the 17th of July, as a case admitting of no delay, and thus fell under my immediate inspection. She was suffering excessive pain in the region of the bladder, which was tense and sore to the touch, but not tumid. A strong urinous odour issued from her, and her urine was constantly dropping away. These symptoms induced me to introduce a catheter; in doing which, the instrument struck against and was stopped by a hard body. I now withdrew the catheter; and, upon further examination, felt in the vagina a calculus occupying its cavity, and distending it considerably beyond its natural size.

I attempted to extract it with a pair of pocket forceps, applied over an apex which the stone presented at the external orifice; but the forceps were bent in this attempt, which therefore failed. I now desired the attendance of Mr. Carden, the surgeon of the week. The foreign body was so closely impacted in the vagina, that a finger could not be passed by the side of it; nor could the smallest stone forceps be introduced. Mr. Carden then took a scoop, such as is used in lithotomy, the blade of which was about four inches in length and half an inch in breadth, slightly bent and very little hollowed, and the inner surface of the points roughened. This instrument he passed along the superior surface of the calculus as far back as possible, and by elevating its handle, and giving to its blade the action employed in using the vectis, pushed forward the stone, which at the same time carried before it the peroneum, and put it greatly on the stretch; but it could not be made to pass through the natural opening. Mr. Carden then divided the protruded part of the peroneum upon the stone, extending the incision by the side of the rectum nearly to the tuber ischii. By a gradual and constant application of the same force for a quarter of an hour, the stone was with much difficulty extracted. On further examination, another stone was discovered higher up, and brought away by the introduction of the finger.

After washing out the cavity of the vagina with a syringe, and bringing away several small fragments, the child was put to bed, and in the evening, the pulse being very quick and hard, four ounces of blood were taken away from the arm, and an aperient medicine was given.

18th.—The child complains of no pain, and is very easy; her urine comes away constantly, and the parts are neither tense nor more inflamed than they were previous to the operation.

19th.—Much the same. A poultice was applied to the parts.

A week after the operation, during which time she continued doing well, the parts were accurately examined, and, on passing a probe through the meatus urinarius, the canal was found to be entire for about three quarters of an inch; but beyond this, and extending to the bladder, the canal had sloughed. In about three weeks the external wound was healed, but not the least power of retaining the urine remained. Her general health was very much improved.

On questioning the woman who brought her to the Infirmary respecting her, she stated that about a year and a half ago the child complained of constant inclination to make water and to go to stool, which was always accompanied with pain in her private parts. She was examined by the woman, and a small metal button was discovered and taken away from the vagina.

The calculus that was first taken out weighed two ounces and a half; the second one ounce and a half. The surfaces, which lay in contact, were smooth and much hardened, playing on one another like a ball in a socket. On sawing through the smaller calculus, a button was discovered, similar to that which had been before extracted. In the larger stone, which had the shape of an irregular cone with its smallest extremity pointing externally, no nucleus was found.

This communication would be rendered much more interesting, could we decide, with strong probability, on the mode and situation in which this singular collection of calculous substance was produced. This, however, may lead to the proposal of the following queries:—

1st. May not the child (influenced by the same sensations which induce boys with stone in the bladder to rub the extremity of the penis) have applied the apex of the button to the orifice of the urethra, and by constantly rubbing the part, have distended it by degrees so as to admit the whole of the button, and thus have pushed it on into the bladder? or

2dly. May we suppose the vessels of the mucous membrane lining the vagina to have secreted this matter around the button, which by degrees, accumulating and passing on into the urethra, may have produced ulceration of that canal?

ANALYSIS OF THE CALCULUS, BY THE EDITORS.

Physical Qualities.—The portion of the calculus sent to the Editors is smooth and slightly concave on the one surface, as if it had been attached to a globular body, and convex, rough, and irregular on the other surface. Its thickness is three eighths of an inch, of which about two thirds are of a compact lamellated texture, and the other third open and granulated: the colour of the interior portion is a very light grey; that of the exterior, grey with a shade of yellow; it readily breaks with a rough fracture, and is easily reduced to powder under the pestle. It has neither odour nor taste; and when exposed to a red heat, it first became black or charred, then white, lost part of its weight, and was so friable as to be rubbed into a powder between the fingers.

Chemical Properties.—*a.* Ten grains of the calculus, in the state of fine powder, were boiled for an hour in distilled water, and, when again dried and weighed, were found to have lost five grains in weight; the residue was perfectly colourless. *b.* The same quantity put into nitric acid was completely dissolved; and, on the addition of a solution of pure potass, a slight floculent straw-coloured precipitate was thrown down. *c.* In the muriatic and the sulphuric acids a partial solution only was effected, and that in the latter was of a deep brown colour and thickened, apparently from the action of the animal matter on the acid. *d.* Ten grains of the calculus, in powder, were digested in two fluid drachms of a solution of pure potass; a partial solution was effected, during which, ammonia was evolved. *e.* The undissolved residue, being washed in distilled water and well dried, weighed 3·02 grains; which being digested in distilled vinegar, 2·5 grains were dissolved. On evaporating the solution, the residue was found to be acetate of magnesia; which was further demonstrated by decomposing it by means of sulphuric acid and the formation of sulphate of magnesia. *f.* The remaining half-grain, dissolved completely in muriatic acid by the assistance of heat, and on the addition of pure ammonia to the solution, a white precipitate was obtained. *g.* The solution passed through the filter (*d*), being largely diluted with distilled water, and lime water added to it, a copious white floculent precipitate was thrown down, which being dried, weighed 9·5 grains. *h.* The fluid passed through the filter (*g.*) being evaporated to one twelfth of its original bulk; muriatic acid was gradually added to it, but no precipitation took place. After this addition, on evaporating to a pelicle, cubical crystals were obtained, which were found to be muriate of potass. The addition of nitric acid to a portion of the fluid *(a.)* produced no precipitate, nor any change of colour.

From the above experiments the calculus appears to be composed of *phosphate of ammonia (b.)*, and *of magnesia (e.)*, and *phosphate of lime (d.)*; with a considerable portion of *animal matter*. There is sufficient reason for concluding that it contains no *uric acid*, or at least a very inconsiderable portion.

VIII.

Biographical Sketch of the late William Royston, *Esq. Fellow of the Linnæan and of the Medical Societies of London, and One of the Presidents of the Medical Society of Blenheim Street, &c. &c. with some Account of his Illness, and the Appearances on Dissection post mortem*[*].

Mr. William Royston was born at Wigan, in Huntingdonshire, in the year 1761. His father was a highly respectable character in a class of society which has always formed a very conspicuous and stable portion of British independence—that of the Yeomanry, or, as they are now denominated, Gentlemen Farmers. At the usual age he was sent to a grammar school at St. Ives, where he received the rudiments of his education; and upon quitting school he was apprenticed to his uncle Mr. Ibbott, a Surgeon-Apothecary at March, in the Isle of Ely. Both at school and during his apprenticeship, he gave striking indications of excellent talents; and acquired a considerable degree of knowledge in those sciences, which, in his maturer years, he cultivated with assiduity and delight.

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[*] For several of the particulars of this memoir, the account of Mr. Royston's last illness, and the dissection, we are indebted to his intimate friend Joshua Brookes, Esq.—Editors.

In 1779 he entered himself a student of St. Bartholomew's Hospital, under the illustrious POTT; and attended with great diligence the anatomical school of the able SHELDON, who distinguished his pupil as one possessing eminent abilities, and of high promise. After passing through the usual routine of the London School, he, some years subsequently, (in 1794,) attended that of Edinburgh; and finally settled in business at Somersham, in his native county.

Early in life Mr. Royston evinced a passionate fondness for the Arts and Belles Lettres. He cultivated a natural taste for painting and music, and was a self-taught proficient in both those arts. There are many specimens of his judgment and execution in the former; and of his performances on the violoncello, the violin, and the flute, and even in musical composition, report spoke most favourably. Neither was the sister muse, Poetry, neglected by him; nor was the muse regardless of her votary. These circumstances are mentioned merely to shew the originally elegant turn of Mr. Royston's mind; but not as possessions of which the medical student ought to be envious. To natural history he was ardently attached; and the papers which he published in various periodical works denote that he had not indifferently looked into the great volume of Nature.

His devotion to literature was displayed on all occasions; and he was the first to seize on every opportunity, by its encouragement and promotion, to enlarge the sphere of human knowledge. In the circumscribed circle of a small country town he saw and felt the want of those intellectual enjoyments which were to him sources of the highest gratification; and he consequently projected and established, at Somersham, a Literary Society, the members of which never ceased to lament the desertion of its Founder. In the higher ranks of life, by those who knew how to appreciate the value of the services of an able medical friend, those of Mr. Royston were justly estimated; and the poor, who had for many years reaped the benefit of his gratuitous advice, whenever it was required, combined in one universal expression of regret when circumstances urged him to quit Somersham. But a mind so constituted, and so eminently qualified for a wider and fairer field of action, was not likely to remain contented within so confined a limit. Hence, perhaps, it required no very powerful arguments from his friend Dr. Glynn, of Cambridge, and other competent judges, to induce him to remove to the metropolis. He quitted Somersham, and settled in Princes Street, Cavendish Square, in 1806.

Here Mr. Royston had full opportunity of indulging in his favourite pursuits; and perhaps the fascinations of the new scene in which he became engaged, proved more attractive than exactly suited with the strict line of his professional duties. He at first ventured, only with the diffidence of a modest aspirant, and wrote several excellent, but anonymous, Essays in the Medical and Physical Journal, of which he eventually became one of the EDITORS; and the pages of which exhibit many proofs of the variety of his attainments, and the elegance of his composition: but by degrees his literary views became more extensive.

In 1808 he published *Observations on the Rise and Progress of the Medical Art in the British Empire;* being in fact a Prospectus for "*A Bibliographia Medicinæ Britannicæ.*" The plan of this projected work was judicious, and displays the bent of the Author's genius; but it was an arduous undertaking, and required the courage and abilities of a *Haller*, and the industry of a *Ploucquet*; and certainly was a design never likely to be finished by any individual engaged in the bustle of a metropolitan medical practice. Some very severe and unmerited remarks on this Prospectus, by the critics of the day, applicable indeed rather to the man than his proposed work, were too sensibly felt by Mr. Royston; for it gave a fatal check to the ardour of his research; and although he continued collecting materials, yet the enthusiasm, the zest, without which literary pursuits are the heaviest of drudgeries, was dissipated, and his application to the task became necessarily relaxed.

When, in 1812, the Apothecaries and Surgeon-Apothecaries associated for the purpose of procuring a legislative regulation of their branches of the medical profession, Mr. Royston was chosen on the London Committee, of which he was an efficient member. And it was during the fervour and union of this Association, in 1813, that he projected THE LONDON MEDICAL REPOSITORY, *Monthly Journal, and Review;* of which he became a Co-Editor and Proprietor; having previously seceded from the editorship of the Medical and Physical Journal. The great success of this new Journal, considering its numerous competitors, was highly flattering to his judgment, and proved, whilst he remained attached to it, a source of honourable emolument. But Mr. Royston's constitution had been much shaken by the toils of a mixed practice ere he quitted the country; nor did he find in London a remission of those symptoms of disease which were always actively operating upon his system: and as his success in business, although respectable, perhaps may not have equalled his expectations, ill-health and disappointment naturally increased his ailments, and rendered him unfit to encounter the unremitting labour requisite for conducting a periodical publication. A separation, therefore, but on the most friendly terms, took place between Mr. Royston and his Brother-Editors of the REPOSITORY.

From this period Mr. Royston devoted himself to the study of the phenomena of electricity and galvanism, induced by a conviction of their utility as medical agents, and of the neglect of their application in the cure of diseases. He purchased a very complete apparatus of Cuthbertson, and combined medical electricity with his former practice: and from the success he had met with in the treatment of many maladies, such as amaurosis, asthma, muscular contractions, &c. by electricity and galvanism, he was looking forward with the sanguine hope of doing much to mitigate human sufferings. But the roots of disease had taken too deep a hold; and, to the great regret of all his friends, it was obvious that he was gradually declining. He had long been subject to rheumatic and nephritic complaints: and, about two years since, he was seized with a violent pain in his head, which yielded to bleeding, cupping, &c. but left a pricking sensation in the ring and little fingers of the left hand, which continued until his death. His respiration became laborious, and his stomach oppressed with flatus to a most tormenting degree; whilst at the same time he was much disposed to lethargy. The symptoms of dyspepsia increased, and that morbid state of appetite termed bulimia might be said to attend him; but the consequences of indulging this craving for food were always exceedingly distressing. This vitiated condition of the stomach was by himself attributed to the eating an ice cream whilst warm from walking, about two years ago.

To alleviate these troublesome symptoms, Mr. Royston, although a man of great temperance, was frequently led to resort to the stimulus of brandy, of æther mixed with milk, of spices, and of other cardiacs. At length, from the increase of the most urgent symptom; viz. difficulty of respiration, he was confined to his house, and obliged to submit to medical controul. His intimate friend Dr. Bree now attended him, to whom Dr. Baillie added his professional aid, together with that of his friends Dr. Curling, Messrs. Copeland, Dickinson, Brookes, and Collins. But all means were unavailing; the symptoms were more exasperated, the consequent irritability was excessive, and his strength became daily more exhausted.

Conscious of his approaching end, Mr. Royston prepared to meet it with the firmness of a man and the resignation of a Christian. He died on the 3rd of December 1816, aged 55; and was buried at Somersham. He has left a widow, for whom, we fear, there is a very inadequate provision.

Mr. Royston was endowed by Nature with superior talents, which he had cultivated in early life with very little assistance, but with great advantage. We have mentioned the sciences and the arts with which he had acquired an intimate acquaintance. His facility of writing was considerable, and his language rich, flowing, and harmonious; but, perhaps, on subjects purely philosophical, his style of composition was a little too diffuse and figurative. On public occasions he always delivered his sentiments with precision and effect; and as President of the London Medical Institution, in Blenheim Street, his opinions were listened to with great respect and attention. To the members of this society an elegant eulogium on his character was pronounced by the Secretary, Mr. J. U. Smith. He had been appointed to deliver the next annual oration before the Medical Society of London.

The warmth of Mr. Royston's attachments to those who honoured him with their friendship was proverbial; and many there are who have figured before the public in "hot-pressed sheets," and acquired some celebrity, who are indebted for it to the talents and the judgment of him who now is "numbered with his fathers." Indeed such was his zeal in the cause of those he esteemed, that it sometimes beguiled him of that impartiality which a public censor of the press ought uniformly to preserve. This, however, was an amiable failing; and it must be acknowledged it was not confined to his intimates; for all who sought his opinion and advice on literary subjects equally experienced his assistance and his urbanity.

Mr. Royston had formed a well-selected library, and a small but choice collection of pictures; both of which are destined for sale.

Of his literary labours there are no printed memorials but those to which we have alluded; and all of which are of a miscellaneous character. The MS. of his projected *Bibliographia Medicinæ Britannicæ* voluminous; but we are ignorant of the extent to which it was carried. The MS. of a work intitled "*Observations on Electric and Galvanic Medicine; comprising a View of the Analogies existing between the Electric Fluids and the Principles of Vitality; with Illustrations, Engravings, and Explanatory Notes*," is said to be completed for the press; and is dedicated to the Royal College of Physicians. Of its merits those who were acquainted with its author will be apt to judge by anticipation. Truly happy shall we be to find their highest hopes realized, both on account of its author's Relict, and the establishment of his own justly merited celebrity.

DISSECTION.

On the day after Mr. Royston's decease, Mr. Brookes examined the body in the presence of Dr. Baillie, Dr. Curling, Messrs. Copeland, Dickinson, &c., when the following appearances were observed.

HEAD.—The *brain* offered but little to interest, further than that to the plexus choroides in the left lateral ventricle a few small hydatids were attached; and, as is generally observable in a subject of nearly sixty years of age, the cerebral and vertebral arteries with the basilary were changed in structure, opake, had lost their contractability, and were fast approaching to ossification; in this particular, resembling the condition of the splenic artery, as will be noticed. There was half an ounce of fluid in each lateral ventricle.

THORAX.—In the left *lung* inflammation had taken place, which had produced some trifling adhesions between the pleura pulmonalis and costalis. The right *lung* was very much inflamed, suffused over its surface with coagulable lymph, which was floating in serum, of which there was about a pint.

The *heart* was large, and had on the middle of the pulmonic ventricle an opake spot about the size of a shilling, denoting inflammation that had existed at some remote period. There was another spot of the same kind at the very apex of the aortic ventricle. The apex possessed a rotundity not natural. All the valves of this viscus were firmer than usual, but not at all ossified.

ABDOMEN.—The *liver* was much diseased. It was rather less than the natural size, of a light red colour, tuberculated, and of equal degree of induration throughout. The *gall bladder* and *biliary ducts* were not at all diseased.

The *stomach* was small, nearly empty, except at the cardiac extremity, contracted in the centre, and, on being divided on its anterior surface lengthwise, appeared of a dark reddish hue, with the pylorus morbidly thickened.

The *spleen* was much firmer than usual, the whole of its parenchymatous structure retaining the same compact texture.

The *splenic artery* was much diseased, its coats very opake and verging towards ossification.

The *pancreas* partook of a similarly indurated structure.

The other abdominal viscera were not at all altered; but the *bladder* was thickened in its coats, and somewhat inflamed at the termination of the ureters.

The *prostate gland* was like all the diseased viscera, firmer in its structure than when in a healthy state, rather larger, and its middle lobe projecting into the bladder.

The *kidneys* were strikingly diseased, being not more than half of their usual size, exhibiting the morbid features of the other viscera particularized, the cortical part by no means of that ruddy colour which is usual; the tubulary portion and the tubuli uriniferi were more than commonly distended.

AUTHENTICATED CASES, OBSERVATIONS, AND DISSECTIONS.

XLIV.—*History of Two Cases of Poisoning by the Sub-carbonate of Potash, with the Examination of the Bodies* post Mortem.

Two young ladies, of the ages of sixteen and twelve, visited the sea-side in June last for the purpose of bathing; previously to which it was judged requisite that each should take a dose of purging salts.

Unhappily, half an ounce of sub-carbonate of potash was given to each of them, instead of the intended salts.

Violent sickness immediately followed the taking of it; but the mistake was not discovered until two hours and a half afterwards. Application was then made to a medical gentleman, who administered acids to them.

Upon the eldest young lady, the sickness never intirely ceased. She complained also from the first day of pain of the epigastric region. It was proposed to bleed her; but the violent and continued vomiting had so reduced her, that the application of leeches to the stomach was substituted for the lancet; which gave instant relief. Two days afterwards the pain returned, and leeches was again successfully applied. Still the sickness continued; which was now attributed to mere irritability of the stomach. Sedatives were therefore prescribed; which, although they did not wholly obviate the sickness, yet rendered it less frequent. She now returned to London with her sister. Upon her arrival, the vomiting recurred in a more violent degree. She gradually grew worse, and expired on the 30th of August. This young lady was of a very delicate constitution, and had been subject to spasms of the stomach.

The sickness continued on the youngest for three days, and then ceased. In four days more she began bathing in the sea, which appeared to agree with her, as she gradually grew better. In about three weeks from her taking the sub-carbonate she returned to London. Another week passed, when the sickness returned, and she was confined to her bed; where she lingered until the 21st of September, and then died.

A doubt was expressed whether the symptoms were really occasioned by the sub-carbonate of potash; and that they must be the effect of something more deleterious. But the nature of the substance was clearly ascertained; besides there are cases on record where great danger was produced from a precisely similar mistake.

Dissection.—Appearances on opening the body of the late Miss D. aged sixteen.—31st of August, 1816.

The cavity of the abdomen displayed a deep-coloured aspect, a considerable condensation of the peritoneum or involving membrane of the viscera; and a dark unfavourable complexion of the omentum, attended with much turgescence of its vessels.

The intestines adhered together by thin threads of coagulable lymph, and had an innumerable number of gangrenous patches extending over their surface. The stomach was much thickened externally, its villous coat was almost wholly destroyed, and its remains were in a high degree of inflammation: towards the pylorus it was very much ulcerated. The opening was plugged up by a thick effusion of coagulable lymph, and was so circumscribed in diameter as scarcely to admit of a probe of common size.

The right lobe of the liver was of a dark-green hue, in consequence of the transfusion of bile; and the gall-bladder was fully distended by it, very probably owing to the state of the biliary ducts, which were found almost obliterated.

Dissection.—Appearances on opening the body of the late Miss A. D. aged twelve.—22nd of September, 1816.

The general aspect of disease was much of the same nature as in the first case, though obviously it existed in an inferior degree in the chylopoietic viscera.

The omentum was almost totally destroyed, and the glands of the mesentery for the most part were absorbed. The liver was the perfect prototype of her sister's, presenting identically the same discoloured appearance, and having the gall-bladder similarly distended.

The intestines had not suffered so much from gangrene, although at the lower portion of the canal the disease put on its darkest shades. The stomach was as much thickened, but its mucous surface was not so highly affected, although much ulcerated towards the intestines.

The pylorus was infinitely contracted, and at its lower outer part looked an entire mass of putrefaction. The cardia had suffered in a material degree.

The pancreas was of a schirrous structure, whereby its functions must have been annihilated. The cavity of the thorax did not present any striking phenomena of disease, although evidently evincing there had been much want of action, the lungs being unnaturally pallid and collapsed, and the heart of diminished volume.

XLV.—*A Case of Aneurism of the Aorta.*

The patient, who was only twenty-six years old, appeared to have laboured under tabes for several months. His general symptoms were great debility, heat, and pain about the epigastric region, and occasional pain in the back; attended with costive bowels, some slight degree of fever, and a small quick but regular pulse. A tumour was felt in the epigastrium, but not so satisfactorily as to determine its nature. The case terminated in death.

Dissection.—On examination, a large aneurism of the aorta was found, taking in the cæliac and superior mesenteric artery, and bounded posteriorly by the anterior surfaces of three of the vertebræ; the cartilages of which were entire, but a great deal of the bony structure was absorbed. The thoracic duct was compressed, and the cava was much displaced. The sac would have held a quart, and was lined with a coagulum, disposed in layers to the thickness of four inches anteriorly, and about half an inch laterally and posteriorly. The internal membrane of the thoracic aorta was very much diseased, but it decreased in the abdominal aorta, as it descended from the aneurism.

XLVI.—*Case of Atrophy terminated by Hydrocephalus.*

An infant was in a state of atrophy when hydrocephalus supervened; of which there were no symptoms until three days previous to death.

Dissection.—On opening the body, the mesenteric glands were found enlarged and indurated, but not nearly to the extent which might have been suspected from the emaciation of the patient. The liver was mottled with white blotches, and apparently in progress to a tuberculated state. The spleen was healthy. In the head, the pia mater appeared like a strongly injected vascular preparation, and was also covered with coagulated lymph. The ventricles contained about three ounces of serous fluid.

PART II.

ANALYTICAL REVIEW.

I.

Précis Elémentaire des Maladies Réputées Chirurgicales. Par J. Delpech. 3 vols. 8vo. Paris, 1816.

France has, within these few years, abounded in systems of surgery. Another is now added to the list from the pen of a professor at Montpellier, who is already advantageously known to us by his Treatise on the Hospital Gangrene. This author well observes, that surgical writers have too generally confined themselves to an account of plans for performing operations; as if a knowledge of the diseases for which operations are required were not the first thing necessary; or as if it were more important to learn how to perform operations, than to be able to cure diseases without them. *Richter* and *Callisen* are mentioned as honourable exceptions; to which we beg to join the name of *Boyer*, who, in his recent work (*Traité des Maladies Chirurgicales*), has excluded operative surgery, leaving it as the subject of a separate treatise to his son-in-law, *M. Roux*.

M. Delpech has followed Boyer's example; the volumes before us are occupied solely with the pathological and therapeutical branches of surgery. Inflammation, the most important part of pathology to the surgeon as well as to the physician, is first treated of; but as the nature of this disease is unknown, and as the author has wisely avoided advancing any theory upon the subject; nothing more is to be met with than a simple detail of well-known phenomena. In the method of treatment there is the same apprehension of employing cold, and the same fondness for warm applications, which distinguish the practice of the French surgeons. A few pages only are bestowed on erysipelas, because it admits of no surgical treatment. All local applications are said to be useless. Emetics, which have been freely given under the opinion that erysipelas was generally symptomatic of disorder in the stomach, are censured as being often injurious, by causing a dangerous metastasis, or substituting a continued fever for the original local complaint. Erysipelas, in short, when uncombined with any other diseases, is regarded by M. Delpech as an acute eruptive disorder, which must be allowed to pass uninterruptedly through its successive stages; glysters, mild laxatives, and diluted drinks, promoting perspiration and urine, being the only adviseable means of cure.

Phlegmon is defined to be a considerable local inflammation, forming an elevated and circumscribed tumour, tending mostly to suppuration, but sometimes to gangrene. It may be *idiopathic*, as when arising from a foreign body, a puncture; *symptomatic*, when occurring as one of the symptoms of a general disease; *sympathetic*, as from syphilitic contagion; or *critical*, when occurring at, and connected with, the termination of another disease. Dissection at the commencement of a phlegmon, shews the layers of cellular membrane thickened, its capillary blood-vessels injected, its cells towards the centre of the tumour filled with serum, and those nearer the circumference occupied with adhering albumen. In a more advanced stage, the central cells contain pus; the adjoining cells, serum; and those near the circumference, lymph or albumen. At last the centre of the swelling is converted into a cavity filled with pus, at the expense of the torn and broken-down cells of the cellular substance, whilst the circumference presents the same structure as at a less advanced period.

"When a phlegmon has terminated in an abscess," M. Delpech observes, "we ought to leave the evacuation of the pus to the powers of nature, except in the following cases: 1. When the phlegmon is situated in very sensible parts, the distension of which causes intolerable pain. 2. When the abscess is formed in deeply seated fatty parts, so that only a small portion of the tumour appears externally. 3. When the abscess occurs in cellular substance covered by a thick fascia or an extensive muscle. 4. When the phlegmon approaches to a chronic character, the integuments becoming thinned to a great extent, and the subjacent cellular substance destroyed by the prolongated detention of the matter. 5. When the phlegmon is critical, the pus probably containing a part of the material cause of the principal diseases."—p. 29.

This last sentence savours much of the humoral pathology; and although this doctrine be disregarded by the French in their physiology, it is constantly respected by them in practice. Critical abscesses, however, are sometimes to be opened, but with the precaution of using caustic for the purpose. M. Delpech advises, that kali purum should, in this case, be first applied; and that at the end of six hours, an opening should be made with a lancet through the centre of the eschar.

M. Delpech follows his general view of phlegmon and abscess, by an account of their occurrence in particular situations, as external to the pleura or peritoneum, behind the sternum, in the kidney or liver, in the neighbourhood of bloodvessels, &c. When pus is formed in consequence of inflammation in the cellular substance connecting the pleura to the parietes of the chest, or the peritoneum to those of the abdomen, it has never been known to burst into the cavities of either of these membranes, but has always made its way externally. The great difficulty is in ascertaining the situation of the matter. The seat of the swelling or of the pain, for instance, are insufficient to prove that an abscess, manifesting itself on the surface of the abdomen, is the result of inflammation external to the peritoneum. Faecal matter being discharged with the pus, proves the contrary; but M. Delpech tells us, it must not be forgotten, that a faecal smell communicated by the contents of the intestines to the neighbouring pus, may deceive us. This observation is a little too nice, and we have much reason to doubt its accuracy. The foetor of the contents of the intestines is as incapable of penetrating the coats of a living intestine, as the bile of transuding through the coats of a living gall-bladder; and when the abdomen of a living animal is opened, no offensive smell of fæces is perceptible, whilst the intestinal coat remain entire. There is a total want of arrangement in the author's account of phlegmon and abscess in different situations; and he has failed to contrast well the different tendency of pus in the neighbourhood of mucous surfaces, with what has just been noticed respecting the serous surfaces within the thorax and abdomen. An abscess near the urethra, rectum, or lachrymal sac, is very prone to burst into any of these cavities; and an opening cannot be too early made for preventing such an occurrence. When an abscess takes place in the cellular substance of the anterior mediastinum, trephining the sternum to evacuate it is very properly discountenanced; because the diagnosis cannot be established with sufficient certainty. We have seen an abscess in this situation simulating all the symptoms of disease of the heart or great blood-vessels, making its way outwardly by absorption of the sternum, and presenting a prominent throbbing tumour; the true nature of which was only ascertained by the spontaneous discharge of its contents.

The synovial membrane of joints is often the seat of inflammation, which M. Delpech, on account of its symptoms, calls a phlegmon, notwithstanding the extent of surface over which it spreads. The synovial secretion becomes flocculent, and, if the inflammation be sufficiently intense, purulent. By pressure and topical stimulants, the altered or bloody synovia which had been accumulated may become absorbed; but pus within the cavity of a joint must be discharged by an external opening. The difficulty of ascertaining the nature of the contained fluid has been so little lessened by what M. Delpech has said, that few surgeons, after reading his book, will be inclined to follow his advice, "to make one or more small, very oblique punctures," for the discharge of pus within the cavities of joints. Until nature has nearly effected the object for herself, and removed all uncertainty, such an operation cannot be justified.

French writers distinguish scrofulous abscesses by the terms abcès *froids*. M. Delpech has introduced a still more singular term for a sort of abscess which has not hitherto been classified, *abcès soudains*. These *abscesses* make their appearance almost instantaneously, without being preceded by any evident inflammation, and they have already acquired a considerable size at the moment when they are first observed. The intermuscular and subcutaneous cellular substance is the common seat of them; and there does not appear to be any mortification or death of this substance to make way for such a rapid formation of matter. Persons weakened by age, want, or sickness, are the subjects of this disease. The accumulation of matter increases with astonishing rapidity, and soon becomes of an enormous bulk, if left to take its course. Low fever supervenes. If the abscess bursts spontaneously, or is opened by art, matter is discharged of a very fœtid smell, although in other respects well conditioned. Sometimes the opening furnishes a prodigious quantity of thin matter; at others, the discharge is suddenly dried up and new collections are formed. A whole member may be so much injured by a series of these abscesses, as to induce sphacelus and death. M. Delpech proposes no effectual treatment for this disease, which commonly hastens to a fatal termination. The free and continued use of bark and mineral acids has been attended with slight advantage, retarding the deposition of matter, rendering it less fœtid, and moderating the disordered state of the bowels. Evacuating the matter of each abscess by a single puncture is recommended as a mean of deferring the unavoidable termination of the disease in sphacelus and death.

M. Delpech has considered gangrene particularly in relation to the causes which produce it, and upon this basis has formed a scientific arrangement: 1, gangrene arising from excessive inflammation; 2, from inflammation of a malignant nature; 3, from the suspension of arterial and nervous influence; 4, from disorganization (commotion, blows, burns, &c.); 5, from contagion (hospital gangrene). It will be no loss to the practical reader that we do not notice these heads so extensively as they deserve, the history of the disease being in general more dwelt upon than the treatment. A suspension of arterial and nervous influence producing gangrene may occur in the larger trunks, or in the minute branches. When the main artery and nerve of a limb are divided, the author thinks there is so little chance of preventing gangrene that we ought to act as if its occurrence were certain. Such an accident, however, is generally complicated with extensive injury to the neighbouring soft parts, which has its share in producing death of the limb. It is by no means established, that the mere division of the main artery and nerve, even of the lower extremity, will be inevitably followed by gangrene; and in the upper extremity, such a consequence is not to be apprehended, when the division of the brachial artery and the median nerve is unaccompanied by fracture and laceration of surrounding parts. Obstacles to the circulation of blood, and the communication of the nervous influence in the capillary system occur from partial pressure, bandages, recumbent posture, &c. The same degree of pressure, which partially applied, would produce gangrene, can be supported without inconvenience when extended to a whole limb. But in the latter case, if the bandages be moistened after having been applied dry, they may contract so much as to produce extreme and dangerous pressure. The relaxation of bandages after excessive pressure should be gradual; the sudden removal of them will incur fresh danger of gangrene.

In the treatment of burns and scalds, the French surgeons persist in denying the advantages to be derived from cold applications. It may be convenient, M. Delpech says, to have recourse to a cold bath impregnated with acetate of lead at the moment after the accident, but opiate applications are to be relied upon throughout the rest of the disease.

> "When mortification is produced by the direct application of heat, the eschars must be left to separate and the wound to cicatrize, the same as when it happens from any other cause. But all means should be taken to prevent gangrene where the degree of heat has not been sufficient at once to produce it. Inflammation is, in this case, what produces death of the parts; and the pain, which is excessive, is the first symptom to be attended to. The efficacy of sedative applications, particularly opium, has been sufficiently demonstrated by experience. We have often witnessed the rapidity with which a strong opiate ointment, applied to a surface highly inflamed and excoriated by heat, has dissipated all fears of gangrene. The application ought to be constant, and frequently renewed; thus we dispense, in many cases, with all dressings, leaving the part wholly uncovered, and anointing it with a liquid cerate loaded with a great quantity of powdered opium."—tom. i. p. 111.

Our author has classed necrosis with gangrene, because it is in fact the latter disease occurring in hard parts.

Punctured and incised wounds, fractures of bones, and gun-shot injuries, are all arranged together in the third section, under "solutions of continuity." M. Delpech seems inclined to modify the practice, almost universally adopted by the French surgeons, of choosing the extended position in fractures of the lower limbs. This position, he observes, is certainly most convenient for accurately applying bandages and effectually retaining them: and it is indispensable when the fracture extends into a joint, because a subsequent loss of motion in the joint is to be expected; in which case, none but a straight limb could be of any use to the patient.

But when the fracture is only near a joint without extending into it, it becomes necessary to place the limb in a semiflexed position, in order to obtain a complete reduction. The flexor muscles are inserted immediately above or below the joint, and the small portion of the fractured bone next the joint is so displaced by their action, that it is impossible to keep it in its natural situation by any apparatus whilst the limb is extended. By placing the limb in a bent position, the large portion of the fractured bone is brought on a level with the small portion, and the reduction is thus easily accomplished and maintained. The following remarks on fractures in general appear to us to convey a good lesson:

"Where the fracture has already existed for some days, and swelling and inflammation of soft parts have come on, we should be cautious about immediately making attempts at reduction, which might increase the inflammation to a dangerous degree. It is adviseable, under these circumstances, to be contented to leave the parts as we find them, and employ ourselves in combating the inflammatory action. After this has been removed, we must think of the means of reduction. It is necessary, however, that these indispensable means should be adopted as early as possible; and, although it be requisite to wait until the inflammation has subsided, it would be remiss to wait for the subsiding of the tumefaction of the parts, at which remote period union might have commenced between the displaced fragments of bone.

"It is important to reduce the fracture as far as possible at the first attempt. If, however, any serious obstacle come in the way, we ought not obstinately to persist in our attempts at the risk of causing serious inflammation; the inconveniences of this would be greater than those of a slight dislocation of parts, that could be reduced at some future period with much less danger."—tom. i. p. 210, 211.

M. Delpech differs from many of his countrymen in believing that union never takes place after fracture of the neck of the femur, and offers a large premium to the person who shall produce a specimen of union by bone without deformity or shortening of the limb. The distinctions regarding the situation of the fracture are not sufficiently well drawn, and the want of union is attributed not so much to the head of the bone being almost insulated and incapable of producing firm bony substance, as to the impossibility of keeping the fractured surfaces in opposition to each other. The shortening of the limb after fracture of the neck of the femur may not occur till several hours or even days after the accident, and the limb is then almost constantly turned outwards. But M. Delpech adds his testimony to that of several other writers, that the limb is sometimes inclined in a contrary direction, rendering the diagnosis for a time very difficult.

In speaking of wounds of the head, M. Delpech has introduced concussion of the brain, which he distinguishes into three species; 1, where there is only a temporary suspension of the functions of the brain; 2, where death is directly produced by the violence of the shock; and 3, where the suspension of the functions of the brain is complicated with a solution of continuity in its substance. The signs of this last occurrence, where the brain is at the same time lacerated from the violence of the commotion, are said to consist in "the symptoms being more violent and not relieved at intervals as in simple concussion, and the pulse in particular being soft and remarkably irregular." If a cure take place after such an injury, it is slow and interrupted, and often leaves behind it some incurable infirmity, as loss of memory, defect of some of the senses, idiotism, epilepsy, &c. In regard to the treatment of concussion, M. Delpech directs us to rouse the vital action of the injured and weakened organ, to prevent congestion of blood within the head in the first instance, and subsequently to avoid the accession of inflammation. Cold fomentations to the head, and the internal use of diffusible stimuli are the means advised for accomplishing the first of these purposes. When the senses are restored and the pulse beginning to rise, if the latter become hard and quick, with increased temperature of the body, inflammation is to be feared; bleeding should therefore be employed, but with that degree of caution which the weakened state of an important organ ought to inspire in us. When the danger of inflammation is gone by, a strong tendency to congestion of blood in the brain remains, against which we ought for a long time to be on our guard by using astringent local applications, and administering active diaphoretics or purges.

M. Delpech has given us some vague and very unsatisfactory remarks on wounds of the throat. He talks of a wound, so deep as to take in a great portion of the circumference of the oesophagus, having done well, although he allows such cases are very rare. The situation of wounds in these parts is so readily defined, that it is hardly possible to write of them without reference to their situation. The commencement of the oesophagus corresponds to the cricoid cartilage; all above this point is the wide cavity of the pharynx. The glottis, or opening into the larynx, is concealed and protected by the thyroid cartilage. A cut immediately above the thyroid cartilage will separate the epiglottis from the glottis; but the latter will be entire, and as it is capable of closing itself without the assistance of the epiglottis*, there will be no symptoms of suffocation from foreign substances: air will pass in part through the wound to enter the lungs by the glottis, and food or saliva, when attempted to be swallowed, will pass out of it. Such a case we have seen do well; and of such a kind, were probably most of the successful cases of reputed wounds of the oesophagus. But for the oesophagus to be wounded, the injury must be inflicted below the thyroid cartilage, the trachea being first cut through; and to us it appears hardly possible that a transverse wound in this situation should divide a considerable portion of the circumference of the œsophagus, without interfering with the carotid arteries. These remarks are sufficient to shew the extravagance of writing upon wounds of the throat as M. Delpech has done, without mentioning the particular situations in which they may occur; and as he is not the only writer who has fallen into the same error, our readers will, we trust, be of opinion, that our observations on this subject are not misplaced.

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* See *Majendie's Experiments, Repository,* vol. vi. p. 62. on the uses of the epiglottis.

Wounds of the chest lead to the subject of inflammation of that cavity, and its consequences. In reference to the operation for empyema, we find the following observations:

> " In some cases where the contained fluid has been completely evacuated by this operation, the lung recovers itself, the cavity becomes obliterated by adhesion between its surfaces, and the patient is quickly cured. From some facts which have been recently observed, the success has appeared to depend in a great measure on the use of tonic injections thrown into the cavity immediately after the pus has been evacuated."—tome i. p. 385.

In another page the author states, that so far from entering into the prejudices of many practitioners against injections under these circumstances, he thinks the use of them is the only means of avoiding the contact of air, the injection supplying the place of the fluid evacuated. Nothing, however, is given in detail; and M. Delpech's general observations on the subject are less satisfactory to us than the judicious question which is added to them; a question which pathology has not yet sufficiently illustrated.

> " In cases of extravasation of fluid into the chest in consequence of inflammation, may not the success of the operation we are speaking of, depend in a great measure on the extravasated fluid being contained within a small space by adhesions between the costal and pulmonary pleura?"

We cannot even give a list of the numerous subjects which occupy the fourth section of M. Delpech's system, under the title of deformities. Besides defects and superfluities of certain parts at birth, we here find enlargement of the tonsils, labia, and prepuce; adhesions of surfaces; imperforations; contractions of external cavities and excretory ducts, the urethra, rectum; fistula lachrymalis; narrowness of the pelvis; strabismus; club-feet*; &c. There is an interesting article on anchylosis and retraction of muscles; but much must necessarily have been omitted, and great sacrifices made to reduce so many, and so apparently different diseases into one class. Stricture in the urethra, for instance, is regarded as a permanent contraction of some portion of that canal, which, when neglected, invariably goes on gradually and slowly increasing, until the obstruction becomes so great, that the urethra gives way behind the stricture, causing urinary abscess and fistula, and endangering the life of the patient; no notice being taken of spasm or inflammation, nor of a hundred other complications of stricture which come under our observation in considering impediments to the flow of urine through the urethra. The French surgeons, as is well known to many of us, treat strictures as if none of these complications ever existed; the gum elastic bougie or catheter being the only means of cure employed by them, when the case admits of either of these instruments being made to reach the bladder. They seem to consider stricture as a disease to be cured by main force, instead of the coaxing and accommodating treatment which some of our surgeons inculcate; and they laugh at our apprehensions of *irritation* and *spasm* from the too forward use of the bougie, or from leaving it too long in the canal.

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* Stricture of the œsophagus, we expected, would have found a place in this part of M. Delpech's book; but it is altogether omitted.

" These inconveniences," says M. Delpech, "are but vain phantoms of the brains of timid and inexperienced practitioners. We ought to choose a bougie sufficiently small to pass the most contracted part of the canal; and so far from discontinuing it on account of its exciting pain, experience proves, that it is better to retain it there for several days, to give time for the sensibility of the parts to accommodate themselves to its presence by *habit* and the *developement* of a new *function*, and to favour the establishment of an abundant mucous secretion, which the lining membrane of the urethra is, at no distant period, sure to furnish."—tome i. p. 559.

Our countryman, Mr. Cross*, seems to have given a pretty faithful account of the use of the conical catheter in diseases of the urinary passage; in the work before us it is recommended as an instrument of little danger and great efficacy in the hands of the experienced surgeon.

M. Delpech has filled his second volume with an account of *foreign bodies* and *dislocation* of parts. Every body ought to come under the former title which does not participate in the living properties common to the solids and fluids of the frame in which it lodges. Substances introduced from without, and which are unfit to be rendered living; parts of living organs, which have become dead, but have not yet been thrown off; fluids possessing some living properties, but which have been deposited in places where they ought not naturally to be found; retained excretions, or the salts precipitated from them; the increased and accumulated production of exhalations; gaseous substances collected in various situations from different sources; all are instances of extraneous substances. They may therefore be solid, gaseous, or fluid; and according to their composition or other circumstances, they may be absorbed and become organized, be removed out of the body, or remain in it without exciting much inconvenience. Water injected into the cavity of the peritoneum, is quickly taken into the system; air in the pleura is found to be as quickly absorbed when the source of it is removed; and the solid sequestrum in necrosis is often entirely carried away by absorption. To be susceptible of being acted on by the absorbent system, the foreign body must be immediately and for a long time in contact with the living surface; and the interposition of matter or other substance is an invincible obstacle to the effecting of this process. Inflammation, M. Delpech says, may impede the removal of foreign bodies by absorption, either because it suspends the functions of the lymphatic system, or, what is more probable, because it is attended with the exhalation or secretion of some fluid which envelopes the substance to be removed. On the other hand, inflammation assists in expelling foreign bodies when these are incapable of becoming organized, or being taken up by the absorbents.

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* *Sketches of the Medical Schools of Paris,* p. 111.

When any foreign body gets within the larynx, it can only be removed by means of an operation, and it is not of great importance what spot is chosen for the purpose, provided the foreign body be moveable and free. Nature continues to make the same efforts for the expulsion of the foreign body which she did before the operation; and if the foreign body should not be opposite the artificial opening, a current of air produced by coughing soon brings it there, and it is expelled.

"But foreign bodies, as we have seen, may be lodged in the ventricles of the larynx, or remain fixed in the glottis. In the former case they may sometimes remain without producing much inconvenience; at others, they may produce important symptoms which call on us to give immediate relief. But nothing can then assist us in determining the situation of the foreign body. The current of air which would drive a foreign body from the bronchiæ to an opening in the trachea, cannot effect the same purpose, when the cause of the mischief is lodged in the ventricles or at the opening of the glottis. Hence it clearly follows, that the safest plan in all cases, is to perform the operation of laryngotomy. The division of the thyroid cartilage along its anterior angle, furnishes an opening as advantageously situated for the escape of foreign bodies as the division of the rings of the trachea, whilst it exposes the glottis and ventricles of the larynx, and allows us easily to seize the foreign body, should it happen to be lodged there. The former operation also has the advantage of being out of the way of all great vessels, and experience has proved that the re-union of the divided cartilage is a matter of no particular difficulty."—tome ii. p. 80.

(To be continued.)

II.

Medical, Geographical, and Agricultural Report of a Committee appointed by the Madras Government to inquire into the Causes of the Epidemic Fever which prevailed in the Provinces of Coimbatore, Madura, Dindigul, and Tinnivelly, during the Years 1809, 1810, *and* 1811; of which Dr. W. Ainslie was President; Mr. A. Smith, Second Member; Dr. M. Christy, Third Member. 8vo. pp. 170; and a Map. London, 1816. Black, Padbury, and Allen.

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We have neglected no opportunity of pointing out to our readers the great importance of Medical Topography. The face of a country is not less interesting to the Medical Philosopher than to the Military Chief; for, whilst the latter feels the advantage of making himself acquainted with its varieties of surface, the nature of the ground, and the most defensible parts, prior to the day of battle, the former is not less aware that the remote causes of disease, particularly epidemic disease, are generally connected with the localities of the situation where it occurs; and that, without attaining a knowledge of these, the influence of medicine in combating the symptoms and arresting the progress of the malady, can be but of momentary avail. We have, therefore, much satisfaction in directing the attention of the profession to this little volume, as one of the most perfect specimens of medical topography with which we are acquainted.

The title explains sufficiently the nature of the subject. Its investigation is divided into eight sections, comprehending the account of the country; the nature, causes, and cure of the epidemic; and proposing some means of preventing its recurrence. The first section contains a geographical and topographical description of the provinces in which the epidemic fever prevailed, comprehending the districts of Coimbatore, Dindigul, Madura, and Tinnivelly; "a tract of country stretching in length, from north to south, from the base of the great southern ghauts of Mysore to the furthest extremity of the peninsula;" and, in breadth, from "the chain of mountains which divides the two coasts, to Tondy on the Coromandel shore."

Coimbatore is described as an open, elevated country, "the average height of the plain being about nine hundred feet above the level of the sea;" bounded on the north and west by immense mountains, and watered by several rivers, the most considerable of which, the Cavery, is filled by both monsoons; "by the S.W. in the months of June, July, and August; and by the N.E. in October, November, and December." From its general elevation, the soil is dry; but nevertheless it contains "much low, marshy ground," in the vicinity of the hills. Winds blowing in a direction from N.W. to S.W. from Malabar, reach Coimbatore through the pass of Paulcaudcherry, the eastern opening of which is about seventy miles from the sea. The towns are in general well built, dry, and comfortable; but that of Coimbatore, one of the most noted, is badly supplied with water, the river Noel being a mile distant, and the well water which the poor employ being brackish. To the latter some cutaneous affections, "which are common amongst the poorer inhabitants," are ascribed by the natives.

The Dindigul district is mountainous and woody; but the general plain of the country is lower than that of Coimbatore; it is not so well watered, and contains many large morasses. The villages are ill built, and the houses "amongst the mountains often low, miserable, and badly thatched." The towns are worse built and situated than those of Coimbatore; Dindigul, the capital, lying extremely low, within six miles of the hills, and having, at the base of a fortified rock, which is close to it, "a large weedy tank."

The Madura district is more open; but towards the west, "lying within a short distance of the hills," are many marshy tracts: it also contains several thick woods, and much jungle in some parts; "and in the vicinity of Kilkerry there are salt marshes, which communicate with the sea." The towns and villages, although in general better than those of Dindigul, yet, "are many of them, particularly in remote situations near the mountains, miserably constructed, and the houses badly thatched." The principal town, Madura, which is situated near the river Vyaar, is low, and surrounded by a wet ditch; and in the vicinity "there are many tanks and rice grounds." The houses are of a mean description; the streets narrow, dirty, and choaked up with the accumulated filth of thousands of cattle kept within the walls; and the drains are so much neglected, that "the rain water stands every where in stagnated pools." In the fort, also, the water of the tanks, "being seldom renewed, is often putrid, and exhaling fœtid vapours."

The Tinnivelly province, which is considerably lower than the others, is bounded on the west by the Travancore mountains, on the east and south by the ocean, and on the north by Madura. It is a flat, open country, containing some jungle, and here and there extensive low and marshy lands. A peculiarity of much consequence, and which is observed also in speaking of the Madura district, is, that all the situations "at a certain distance from the hills are higher and drier than those which are nearer to them." This district is well watered, and contains many salt marshes, one of which is ten miles in circumference. These marshes, not communicating with the sea, are generally dry; but after the severe monsoons in 1810, they became filled with water, which stagnated, and was productive of much mischief. Every exertion, however, has been since made to drain the country, and relieve the suffering inhabitants. The towns in this province are well built, and the largest and most flourishing "are situated on the fertile banks of the Tamburapournie." Tinnivelly, the metropolis, is situated twenty-five miles east of the great mountains, and "surrounded on three sides by extensive paddy lands, watered from the river, and on the west by dry rocky high lands."

The general climate of these different provinces is next described. Coimbatore, from its elevation, is colder and drier than the neighbouring countries. It is visited in November by the north-east monsoon, which swells the principal rivers, and yields the tanks and low grounds their annual supply of water. We extract the following satisfactory explanation of this periodical fall of rain.

> "This monsoon is evidently produced by the junction of the perennial east wind, and the cold air from the frost-bound regions of Thibet, rushing towards the south-west, to supply the place of that which has been rarified and sent upwards, by the influence of the sun on the east coast of Africa and the Indian Ocean.
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> "The rainy influence of the N.E. monsoon, which almost invariably attends the shifting of the wind to the N.E., seems, as far as regards the most southern part of the Peninsula, to be in a great measure confined to the districts lying east of the Balaghat-mountains; which, from their great height and depth, attract and arrest many of those clouds, which might otherwise have been carried to the Malabar side of India by the N.E. wind. In such countries as are situated towards the north, as far as Cuttack, this monsoon would appear to be in like manner bounded, in some degree, by the great range of high lands which run south in the Peninsula, and at the unequal distances of twenty-five, twenty-eight, or fifty miles from the sea; in fact, the rainy influence of the N.E. monsoon may be said to be nearly confined to such territories as belong to the Madras Establishment."—p. 25.

This monsoon is followed by delightful weather, the thermometer in the shade ranging from 62° to 80°: but towards the beginning of February the dews and fogs are heavy, and occasion intermittents and catarrhs among the native inhabitants. The rains accompanying the south-west monsoon begin to fall in June, produced by causes directly the opposite of those which occasion the north-east; for the sun, about the end of May, being vertical over all those districts lying between the southern extremity of the peninsula and Coimbatore, "the air, which takes its direction from the comparatively cooler regions on the eastern and southern coasts of Africa, rushes towards the tracts where the greatest rarifaction has taken place."

"After the torrents, which distinguish this monsoon, have begun to fall in Malabar, the heat of the west wind on the Coromandel coast is usually a little moderated; but in the Carnatic by no means to that degree that we might expect: there, its temperature may be nearly calculated by the distance from the great western ghauts; as, the farther east we go, the greater becomes the heat of the air; the natural consequence of the wind having blown over a greater tract of arid land. In situations near the sea, however, much relief from the extreme heat is almost daily experienced, from the sea-breeze; yet we have known twenty successive days at Madras, during the last winter season, without this great comfort, and which produced a state of the atmosphere almost insupportable."—p. 34.

In Coimbatore the west wind in May, June, July, and August, is not so distressingly hot, being cooled by the swoln river Cavery and the flooded paddy lands, over which it passes; but its current is extremely violent and unpleasant to Europeans. The range of the thermometer in June and July is commonly betwixt 75° and 91°. In August the wind moderates; there are frequent heavy showers, with occasional thunder storms; and soon afterwards the "most oppressive lulls are experienced, and the evenings and nights become hot and close." In September the wind is still westerly, but variable; the evenings are unpleasant, and the insects very troublesome. "There are occasional showers from different quarters;" and the same weather prevails until the north-east monsoon again sets in.

The following is given as a list of the different grains, &c. produced in the province of Coimbatore.

"Rice (*Oryza*); Cumboo* (*Holcus spicatus*); Chōlum (*Holcus saccharatus*); Natchenny (*Cynosurus coracanus*); Warragoo (*Paspalum frumentaceum*); Ténny (*Pannicum Italicum*); Sāmay (*Panicum miliaceum*); Wheat (*Triticum*); Ulandoo (*Phaseolus Mungo*); Carp or Black Ulandoo (*Phaseolus Max*); Coolloo (*Glycine tomentosa*); Towary (*Cytisus Cajan*); Caramunnay (*Dolichos Catjan*); Panny pyre (*Phaseolus radiatus, var.*); Totta pyre (*Dolichos Lablab*); Cádálay (*Cicer arietinum*); Muchacottay (*Dolichos Lablab, var.*); and Coodraywalie Samay (*Panicum semiverticillatum, spec. nov. Rottler*)."—p. 39.

"* Except that of rice and wheat, the common names given here to the grains are the Tāmool names, by which they are usually sought after by the English."

The cultivators in general live well, sleep on truckle beds *(cattles)*, and have blankets *(cumblies)*, comforts which were introduced by Tippoo Sultan, on observing that the people suffered from the bleak air and dampness. Upon the whole, this province appears to be generally healthy, except that fever is endemic " amongst the high lands at certain seasons of the year."

The excellence of the climate of Dindigul is almost proverbial. In January, the thermometer seldom falls below 64° in the shade; in February, dews and fogs are heavy; in March and April it seldoms rains, but the southerly and S.E. wind is less unpleasant than nearer the coast; and in May, which is the hottest month, the thermometer does not rise so high as in the Coimbatore and Madura districts, owing to the air being tempered by refreshing showers attended with thunder. " But it is in June, July, and August, that the superiority of the climate of Dindigul, in regular seasons, is chiefly experienced." The cultivators are less comfortably lodged in this district than in Coimbatore, few having beds, although blankets are in general use, and hence they are less healthy.

The province of Madura is hotter in the hot season, and " not quite so cold in December and January," as Dindigul. In January, the thermometer seldom falls below 66° at sun rise; but in April and May, it rises at noon to 79° and 98°. In February and March, some rain with whirlwinds and thunder occur; and towards the end of the latter month, owing to the unpleasantness of the weather, many of the inhabitants visit the sea coast at Mootapetty for the improvement of their health and as a cool residence. In May, the west wind blows hotter than in Dindigul; but it is tempered in June, July, and August, by refreshing showers from the clouds attracted by the Aligherry and Nuttam hills. September and October are close, sultry, and unpleasant. The N.E. monsoon fills the tanks about the middle of November, and the Vyaar is impassable at Madura for many days. The climate upon the whole, however, is not unhealthy; yet,

> " In the district of Madura, as in every mountainous country of the torrid zone, there are situations where fever never fails, at certain seasons, to be endemic: but then, at such places, in common years, it is simply so, and extends not its malign influence beyond their particular range. An intelligent native of Madura informed the President of this Committee, that, to his certain knowledge, there were villages close to, and others amongst the hills lying in the most western parts of the province, in which, in the months of March and April, scarcely any person, particularly a stranger, could pass a single night, without suffering, in a few hours after, from an attack of fever."—p. 51.

The poorer class of the inhabitants are apparently very wretched, beds or blankets being scarcely known amongst them; and they exhibit in their meagre and haggard looks the unsalutary influence of cold and damp.

The climate of Tinnivelly, in the northern parts, resembles that of Madura; but it differs in the southern tracts: and the province has this peculiarity, "that a fall of rain is always looked for late in January, in quantity sufficient to bring down the rivers and replenish the tanks." The weather begins to get warm in February, and is quite sultry in March, the thermometer rising to 92° and 94°, and rain seldom falling. It continues hot in April and May; and early in June the S.W. monsoon comes down with violence, deluging the low country. July, August, and September, are windy months; October is almost invariably sultry; and towards the end of November "the rainy influence of the N.E. monsoon is felt.

We extract with pleasure the following interesting account of the valley of Courtalum, to which Europeans in this province generally retreat early in June.

> "Owing to the great depth of the Courtalum Valley, it approaches so much nearer to the Malabar coast than other situations along the course of the hills, that those clouds, which under other circumstances would have expended their waters amongst the immense mountains, here pour a great part of their rains; extending to this recess, in a considerable degree, the climate of Malabar: with this favourable exception, that it is not at this time by any means so damp*, notwithstanding the very luxuriant vegetation which is seen in every direction, and the showers that fall daily, attended with a strong, cool west wind.
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> "The difference of the thermometer betwixt Courtalum and Palamcotah is, in general, about 10°; that is to say, while in June or July the temperature at the former is 75° at 7 A.M. and 79° at 2 P.M., it is at Palamcotah, at the same hours, 85° and 89°: so that, during the hot weather at the last-mentioned station, the feeling of comfort experienced on quitting it, and visiting this charming retreat, is wonderful. Such is the bracing effect of the cool air here, that exercise can be taken without doors at any time of the day, and amusements pursued with as much pleasure as in England, as the sky is almost constantly overcast; and if a person does by chance get wet in a shower, there is no danger of his taking cold in consequence, so great is the natural dryness of the atmosphere.
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> "What conduces much to the restoration of invalids at this singular abode, is the little water-fall, under which most of the Euro-

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"* It is a curious and singular fact, that, in this valley, though rains are falling, there is no feeling of dampness within doors, such as we experience in the Carnatic during the N.E. monsoon; and iron and steel remain without rusting, for a very long period."

peans daily bathe. This cataract is, by a division in the rock above, separated from the greater one; and is not more than thirteen or fourteen feet high. The falling of the water, after the first shock is over, gives an undescribable feeling of pleasure*: by its constant beating, it quickens the circulation, and produces a fine glow all over the body; and has, besides, the further good effects, of dispelling languor, raising the spirits, exciting appetite, and promoting digestion, in a superior degree to any other kind of bathing that we are acquainted with. It has, in consequence of these virtues, together with the delightful climate of the valley itself, been the happy means of rapidly restoring many to health and comfort, who, previous to their visit to Courtalum, appeared to be hastening to their graves.

"But it will be necessary to remark, before taking leave of this wonderful recess, that, however excellent may be the climate here in the months of June, July, August, and September, it is far otherwise during those of February, March, April, and May. Partaking as it does of both monsoons, there is much rank vegetation in it; but, from its singular topographical position, it is altogether, or in a great measure, deprived of the salutary influence of the southerly winds, which alone, at this season, could purify the air, distempered as it then becomes by much moisture and unventilated jungle: the consequence of this is, that, in the last-mentioned months, the valley is hot and sultry to the greatest degree, and never fails to be most unhealthy: indeed, endemic fever, at such times, is as certainly met with here as at Gambia or Senegal.

"This peculiarity in the climate of the Valley of Courtalum we particularly beg leave to impress upon the minds of our readers, as it bears an exact resemblance to that which shed its malign influence over the southern provinces of the Peninsula about the end of 1810, and during the first months of 1811; when unusual rains occasioned inordinate moisture, and the deficieney of the southerly wind produced stagnation and morbific miasma."—p. 56—60.

The natives of Tinnivelly enjoy many comforts; their houses are "well raised and neatly built," although in the northern and western tracts "hamlets of a very inferior order, both as to building and thatching, are often met with." Blankets are little known, and beds *(cuttles)* are only used by the more affluent. In the vallies, "a great variety of valuable fruits, roots, and greens are produced."

The second section contains an account of the climate experienced in these provinces for the three years the fever raged, "and its effects on the cultivation of the soil." The years 1804, 1805, and 1807 were remarkably healthy; but in 1808 and 1809, more rain fell in Coimbatore, Dindigul, and Madura, than had ever been known: and although the commencement

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"* The average temperature of the water of the Fall, at eight A.M. during the bathing season, is from 72° to 75°."

of 1810 was pleasant, yet the west wind was less strong than usual, and hence many tracts were but partially ventilated. The rains were again so very heavy towards the end of the year, that "the Vyaar river at Madura was impassable, even by elephants, for many days, and flooded the country, east of that capital, for miles."

> "The great tank at Ramnad, in which this river terminates its course, and usually is not filled for seven years together, burst its banks, and ran into the sea: reservoirs of water, that had been under dry cultivation or pasture fields, have, since these unusual rains, contained more or less water; and the ditch surrounding the Fort of Madura particularly, which for years had been dry, has been constantly kept full of water. The level of the water in the wells within the Fort, which in 1806 had been twenty feet from the surface, has risen at times within three feet of it."—p. 66

In the Tinnivelly district, the rains were also very heavy, filling the salt marshes; which, in the supervening hot weather, exhaled, instead of "a simple saline exhalation, a putrid salt-marsh-miasmata," the fatal effects of which were severely felt. The rain of the N.E. monsoon was not followed by the usual cool state of the atmosphere, and the same was the case in Madura, Dindigul, and Coimbatore; whilst February, March, and April, which are proverbially dry on the Coromandel coast, exhibited this year (1810) the extraordinary variation of heavy rains, winds, and thunder storms. Instead of the strong ventilating winds of March, April, and May, a languid southerly wind prevailed, accompanied with "a certain denseness" of the atmosphere, "sometimes almost creating a difficulty of breathing."

> "There was besides, during these months, a singularly oppressive, hot, and steamy vapour, which rose from the ground, and which gave a sensation not unlike what is occasionally experienced from a crowded assemblage of people in hot weather: added to all this, the dews, which in common seasons are pretty well over by the middle of March, continued to fall heavily so late as the 19th and 20th of May, and could not fail, by chilling the body after the relaxation of a hot night, to prove productive of infinite mischief."—p. 71.

It was at this period that the epidemic raged with the greatest violence: and it may well be supposed that much evil originated from the stagnation, vegetable putrefaction, dampness, filth, and offensive effluvia, which in some places resembled bilge water, "particularly in low or ill-ventilated situations." So great was the sickness in the Dindigul district, that much of the paddy crop rotted on the ground for want of hands to cut it down, and many thousands of cattle died. In Madura, the crops were better got in; but in Tinnivelly they were so generally cut down in an immature state, from the dread of their getting worse by the constant rains, that "the small quantity of round grain required for seed for the cultivation of the present year" could scarcely be procured. In this province, also, not fewer than 44,273 bullocks died from the effects of the moist atmosphere, "and a want of people to take care of them."

In the third section, the committee examine "the Rise and Progress of the Epidemic in the different Districts," the time in which it raged with the greatest violence, and the deaths which took place within certain periods, "compared in some instances with those in common years."

The first public notice of the fever was made in October 1809, at which time it had raged severely "in the Chukragherry talook, at places called Columbam, Cullaporam, and Comoralingum;" but the local circumstances of these places render them always unhealthy. It, however, soon travelled northward, and before it received a check in 1811, had committed great havoc; and from the month of January 1810, to June of the same year, "8924 persons died of it, in the Coimbatore division only." The check above noticed was merely temporary; as in February, after the untimely rain, "the disease recommenced its work of destruction with great severity." Mr. Garrow, who made the first public report of the fever, noticed the opinion which was almost universal in Coimbatore; that it "first entered that district from the direction of the Pylney mountains," taking its course from south to north, "inclining towards the east;" and the same opinion obtained in the Dindigul and Madura districts; in the latter of which, the disease, according to a report by Dr. Christy, appeared as early as 1809; but its extension was in the contrary direction, being from north to south. In Tinnivelly, few attacks were experienced until February 1811, when it shewed itself in some low situations near the hills, and soon extended southward, committing great ravages "all the way to the sea." In this district, the disease first appeared in the neighbourhood of the salt marshes; and hence the reporters conclude, "that in these briny swamps, a separate source of the disease is to be looked for, from that which occasioned the sufferings of those inhabiting the more northern divisions of the same province." In one village, that of Veermamasingaporum near the Pápánásum cataract, which is surrounded by low marshy ground, the mortality was so great, "that it was with difficulty sufficient hands could be procured to burn the dead."

The causes of the opposite and varying courses in which the epidemic extended itself, seem to be involved in some obscurity; and the reporters refrain from giving any decisive opinion on the subject. They however observe;

"We have repeatedly noticed, that great irregularity of seasons had taken place, throughout the whole of the southern provinces; and it is certainly allowable from a universal cause to look for a general result: but while the same description of unusual climate may have prevailed in all these territories, yet the lands themselves may have had localities or peculiarities, of such a nature, as, although under a common influence, to have proved productive of effects differing much in degree. Thus it is that a long-continued unnatural state of the air, operating upon the close and overgrown woods of the Pylney mountains, upon their unventilated valleys and stagnant marshes, could not fail to engender a more rapid and dangerous condition of the atmosphere than that brought about by the operation of the same causes on the drier and less woody plains of the eastern ranges of the Peninsula. In the same manner, and for the same reason, the changed constitution of the atmosphere has been creative of ill effects in the vicinity of the salt marshes of Tinnivelly country, differing much in degree from those experienced in other estates, which, though at no great distance from them, are otherwise circumstanced with respect to nature and situation."—p. 89.

The disease appeared in the first instance purely endemic; and it is justly remarked, that "had the irregularity of seasons been of short duration, it would not have been much heard of beyond the sources from which it sprang." In Coimbatore it spread "owing to the extension of moisture combined with heat," assisted by the south-west winds blowing miasma from the Pylney mountains, its grand source in the opinion of the natives. Dindigul might be supplied from "the same unwholesome source, whilst its other localities were extremely likely, from their nature, to have generated endemic fever:" in Madura, the garrison and places near the hills were perfect hot-beds for fever, sufficient to supply the whole province, if the notion be just, that the miasmata can be conveyed by currents of air; and Tinnivelly, besides possessing sources of fever within the district itself, may have also suffered from the miasmata being conveyed by the north-east monsoon winds. Whatever may have been the immediate exciting causes, the effects of the disease on the population of the affected districts were most melancholy, as the following table demonstrates:

TABLE affording a comparative view of the POPULATION and DEATHS in the four following Provinces.

	Population.	Deaths.	Centage on Deaths.
Coimbature for 16 months...	596,606	22,451	$3\frac{3}{4}$
Madura for 12 months........	245,654	24,626	10
Dindigul for 12 months......	295,654	21,510	$7\frac{1}{4}$
Tinnivelly for 5 months......	690,696	38,202	$5\frac{1}{2}$
Total...........	1,828,610	106,789	$5\frac{13}{16}$

The fourth section, which treats of the causes of the epidemic, is more of a theoretical nature than any of the others; containing, chiefly, the opinions of authors regarding the actual state of the atmosphere which produces febrile diseases. In admitting the influence of marsh miasmata, the Committee conceive, that the noxious exhalations from ill-ventilated woods are also to be regarded as a source of fever, supporting their opinion by the authority of Dr. Fowles, Zimmerman, and Dr. Trotter; and, as far as concerned the epidemic under their consideration, they enumerate as a third origin the extensive salt marshes in the Tinnivelly and Ramnad districts: but they do not attempt to determine whether these acted as marshes simply, or whether their destructive influence is to be attributed to any particular modification of miasmata "consequent of the salt water they contained."

> "But marshy situations," it is justly remarked, "do not appear of themselves to be sufficient to render such affections epidemic: to produce this effect, there is required the superagency of a close, moist, and sultry heat, and imperfect ventilation. Hence it is, that in common years there is not produced, in many of the low situations we have particularized, a miasma of sufficient malignity to excite the general disease; because, in such cases, the exhalation of superfluous moisture takes place during the cold months of December and January, when they are comparatively innocent: but rains falling out of season, and in great abundance, at periods when the weather had become hot, and when there was so distressing and unnatural a deficiency of free ventilation in the atmosphere, occasioned evaporations of a very different nature; and which, we conceive, became a positive source of mischief, by bringing on that corrupt and stagnant state of the air which is ever closely connected with the decay or decomposition of vegetable matter."—p. 106.

The predisposing causes are properly referred to the poor and insufficient diet and cloathing of the natives, debilitating their frames; the greater part of the mortality having principally occurred amongst those who were ill fed, badly clothed, and miserably lodged; whilst even the prisoners in the jail at Darapooram, at the time the epidemic was at its greatest height, "who were well fed, and lodged in a high, dry, sheltered situation, suffered but in a trifling degree." The excessive heat of the weather also, which relaxed the body, rendered it more susceptible of disease; and many of the natives were so imprudent as to sleep in the open air to avoid the heat of the early part of the night, "by which means they became exposed, while perhaps still perspiring, to the chill fogs and the damps of the morning."

With regard to "the nature of the epidemic and its various types," the consideration of which forms the subject of the fifth section, the Committee observe, that it did not differ from the common endemic of the country, "which at certain seasons, and in peculiar situations, may be every year met with;" its epidemic character depending on the causes already noticed. It assumed either the remittent or intermittent character, as circumstances occurred; thus, for instance, when the bark was injudiciously given, either at too early a stage or before proper evacuations, and as the season became hotter, the remittent form was the most prevailing; but in the majority of cases it assumed the intermittent. Males suffered more than females, and the young and middle aged more than the old and children. The symptoms of the disease, in both forms, are well detailed; but as they do not differ from those which characterize the remittent and intermittent forms of fever in the West Indies and the Mediterranean, we conceive it unnecessary particularly to notice them. The types under which the intermittent appeared, were

"1st, The simple tertian. 2d, The double tertian, which would seem to consist of the junction of two single tertians, that run each a separate and independent course, with similar paroxysms on alternate days. 3d, Quotidians. 4th, Quartans; and, 5th, Irregulars. To shew which of these has most frequently occurred amongst the natives, during the present sickness, we cannot do better than here subjoin a report of the sick in the Regimental Hospital of Dindigul, taken on the 1st of June 1811; the effective strength of the detachment being then 255 men.

Simple Tertians.	*Double Ditto.*	*Irregulars.*	*Quotidians.*	*Quartans.*	*Convalescents.*	*Total.*
80	26	24	13	4	20	117

"Of these, 53 had been in the hospital for one month, 89 for two months, 23 for three months, and 2 upwards of three months."—p. 126.

The quotidian type was well marked, and was a very distressing form of the disease; for, as little time between the paroxysms was left for giving the bark, visceral obstructions and œdematous swellings more frequently followed this than any other form of the disease; and this type, also, was considered by the native or Vytian doctors the most dangerous. The quartan type was rare, but very obstinate; and generally brought on "a morbid state of the spleen and consequent dropsy." The conversion of a remittent into a tertian, as might *à priori* be expected, was always favourable; but that of tertians into remittents, or even double tertians, quotidians, or quartans, was generally unfortunate.

The sixth section details the mode of treating the disease, which was found the most successful, and points out the cautions necessary for preventing relapses. When the form of the attack was that of a regular intermittent, the *primæ viæ* were first well cleared by the administration of a brisk purgative, and the bark was given largely immediately after its operation. From six to eight drachms of the latter, taken in substance, were commonly sufficient to keep off a fit; but when the stomach would not bear it in this form, ten fluid ounces of the infusion, with six fluid drachms of the tincture, and a scruple of aromatic confection often proved equally successful. We observe, that both the jalap and the bark are directed to be fresh powdered, a circumstance which we think of importance even in this country, where the efficacy of medicines is undoubtedly often lessened, if not altogether destroyed, by long keeping in the state of finely levigated powder. The paroxysm was shortened, and the strength of the patient sustained by giving from thirty to forty drops of tincture of opium, in combination " with half a drachm of *alcohol ammoniatum aromaticum*, or with half an ounce of the *aquæ acetatis ammoniæ*." The frequent use of purgatives was found to be hurtful " by occasioning irritation, debility, and ultimately, an obstinate disease."

But although the practice we have noticed proved successful when adopted early, yet if the disease had been allowed to run on for some days " without any thing having been done to check it," and improper diet used, visceral affections soon supervened, and calomel was obliged to be employed so as to affect the mouth, with the view of inducing a new action in the habit of the patient before the bark could be administered with safety. The use of calomel, however, in conjunction with the bark, when no obstructions have taken place, is severely reprobated; and instead of the early and free use of the bark occasioning obstructions, it is justly asserted, that they generally arose from neglect, and the allowing several severe cold stages to take place, before the malady was checked. When the disease was obstinate, and had acquired an inveterate habit of recurrence, without " being accompanied with any peculiar derangement of the abdominal viscera," æther, laudanum, and emetics, were severally found useful when exhibited on the approach of the cold fit; but although arsenic, when employed, was found in some instances to put " an entire stop to the disease, when many other things had failed;" yet there appears to have existed a prejudice against it in the minds of the members of the Committee. Blisters on the nape of the neck, and the cold affusion during the hot fit, were found beneficial; and daily sea bathing is said to have effectually cured some cases which had baffled every other means of relief. The use of an infusion of the *Creăt root* (Justicia *paniculata)* with ginger, also, proved very beneficial.

When the epidemic attacked persons who had previously suffered much from liver affections or dysentery, the case became very complicated and required the nicest treatment. If pain or uneasiness of the side still existed, blisters were applied, and calomel, in combination with ipecacuanha and opium exhibited as an alterative until the hepatic symptoms were abated, when the cinchona was resumed. In these cases also, issues, and a *judicious* course of tonics, often proved serviceable. In addition to these means, the proper diet, air, exercise, and a change of climate, tended very much to facilitate recovery.

When the disease assumed the remittent form, the treatment was commenced by exhibiting a combination of calomel and James's powder, which generally produced both copious and gentle diaphoresis: and on the second day, the calomel was given to the extent of two grains rubbed up with a grain of camphor every third hour, and continued until there was, "by producing a desirable change in the habit, so favourable a remission or intermission of fever, that the bark could be given with safety." But if the gums were affected, and yet no regular remission or intermission had taken place, the cinchona was nevertheless employed "as the surest means of sustaining the strength of the patient."

Irregularities of diet, neglect of the means of procuring regular alvine discharges, and improper exposure to weather, obviously brought on relapses; but the Reporters felt strong doubts as to the influence of the moon in producing them, and from some observations of a Mr. Currie there was reason for believing that "they were less common at those times:" on the other hand, Mr. Hastie, in a letter addressed to the President of the Committee, observed: "about two days before the change of the moon took place last month at Dindigul, relapses of fever were frequent amongst the convalescents." Change of air, a sea voyage, keeping the body open, avoiding excess, and "taking occasionally a little tincture of bark, together with a small quantity of that of the *creăt-root*, are the means proposed for obviating relapse.

This section is concluded by the following list of medicines employed by the native medical practitioners in intermittent fever.

"1. *Vullay Pashanum,* (White Arsenic).—Of this they are in the habit of giving about the fifteenth part of a grain twice daily, rubbed into a fine powder with coarse sugar.

"The bark of the *Soïmĭdoo* (*Swietenia febrifuga, Roxb.*) This is chiefly used by the inhabitants of the Northern Circars. We have, from our own experience, found, that, when taken beyond the quantity of five or six drachms in the course of the day, it produces vertigo, and other nervous symptoms; without being by any means so valuable a medicine, in other respects, as either the *Cinchona*, or bark of the *Vaypoomarum.*

" 3. The bark of the *Vaypoomarum* (*Melia Azadirachta*).—This bark is very bitter, powerfully tonic, and is much used by the Tamool doctors.

" 4. The nut called in Bengal *Cāt Carāuja,* and by the Malabars *Cúlláchie Kāic.*—It is the produce of the *Cæsalpina Bonducella.*

" 5. *Chukkoo* (*Amom. Zingib.*).

" 6. *Womoo* (*Sison Ammi*).

" 7. *Sittaretti* (*Costus spicatus, Rottler*).

" 8. *Tsiragum* (*Cuminum Cyminum*).

" 9. The bark of the *Caroowelim* (*Acacia Arabica*).—The tree in Hindoostanee has the name of *Babul.*

" 10. The *Corte de Pāla,* or Tellicherry bark.—It is obtained from the *Nerium Antidysentericum,* and is much used on the Malabar coast."—p. 161.

The volume concludes with some very judicious proposals for preventing as much as possible the recurrence of so great a mortality; such as, the building villages and hamlets in high and dry situations; clearing the jungles; building the streets of the towns wide and regular; employing tiling instead of thatch in roofing; sleeping on truckle beds, and using blankets instead of lying uncovered on the damp ground; and what is of as much importance as any of the other proposals, the recommending the Vytians or native physicians, to "attend for a time to the personal instructions of such surgeons or assistant surgeons as might be stationed nearest to their respective villages."

In closing our analysis, we must again express our entire approbation of this volume as a specimen of medical topography; and, as such, recommend it earnestly to the perusal of practitioners. To the younger branches of the profession, whose destiny may lead them to seek for reputation and fortune in Oriental climes, it is absolutely indispensable; both as throwing much light on the causes producing fever in tropical climates, and pointing out a successful mode of treating it, when it unfortunately, as in the present instance, becomes epidemic. To the Reporters we would say, that their work displays in a very advantageous point of view their proficiency in that branch of knowledge which is of most importance to the physician and to the science he professes,—the art of observation.

III.

A Practical Essay on Chemical Re-agents or Tests; illustrated by a Series of Experiments. By FREDERICK ACCUM, Operative Chemist, &c. &c. 12mo. pp. 263. London 1816, Callow.

THIS little volume, which is on the plan adopted by Westrumb, is a valuable addition to the sources of information already open to the chemical student. Without a knowledge of the nature and use of re-agents, no advancement can be made in practical chemistry, and no original investigations attempted; as by it only can an acquaintance be formed, to use the words of the author, " with the laws that govern the composition and decomposition of bodies, and with the practical processes by which the constituent parts of compound bodies are discovered."

After defining the term *chemical re-agent*, Mr. Accum has given a brief sketch of the principles of analysis, as far as it is connected with the operation of re-agents. In separating the component parts of any body, the assistance of new affinities must be called in, and the components united with other bodies. It is in this manner a re-agent acts: it combines with some of the components of the body " with which it is brought in contact," and forming a new compound, the nature of which is well known, indicates clearly the character of the principle in combination which it has detached from its affinities. " Sometimes the re-agent displaces from the body under examination certain constituent parts or principles only; which in that state may be examined more accurately, and with less trouble; because insulated and disengaged from their combinations." If the re-agent, on the other hand, be decomposed, we are still enabled " to form a judgment of the component parts of the body analysed;" a fact which was little known to the older chemists, and the ignorance of which threw insurmountable obstacles in the way of their advancement in analytical inquiries.

The researches of chemists have enabled them to select certain substances as tests, which produce rapid effects, " and the application of which requires little skill;" and although no substance is useless to an expert analysist, yet it is to those chiefly that the appellation of re-agents has been given. With regard to the application of re-agents, Mr. Accum observes,

> " There are, however, two circumstances which render it necessary that the substances used as tests should be applied with care and circumspection; one is, that the same body used as a re-agent, frequently produces a similar apparent effect, on two, three, or more different matters contained in the compound to which it is presented;

the other, that one re-agent may produce several of those effects with one and the same substance. Both these inconveniences may be remedied, by employing and comparing the effects of several of the re-agents, and by assisting their action by other agencies calculated to render the results unequivocal. This mode of proceeding, the only one that can render the use of chemical tests much more certain and advantageous, therefore supposes that we do not precisely fix certain specific tests, for certain specific substances under all circumstances, and that we take the facts we are in search of, from the united effects produced by the summary action of several tests, applied under different circumstances, as will be pointed out in the sequel."—p. 4.

As the work is not further of a character that admits of a regular examination, we shall select, as specimens of the manner in which it is executed, some passages the most likely to prove useful to the majority of our readers.

Among the tests for sulphuric acid, one of the best is *muriate of barytes.*

" This salt is extremely well adapted for discovering the presence of sulphuric acid, either when in a disengaged state, or when combined with other substances. It produces with sulphuric acid (like barytic water) a white precipitate, which requires for its solution 43,000 times its weight of water, and which is also perfectly insoluble in all acids, except the most concentrated; hence the precipitate obtained by this test may be collected, washed, and dried with the greatest facility, and without risk of loss; it is free from smell and taste, and undergoes no change by being heated red hot, without addition, except the loss of water which it may contain. In a very strong fire, or before the blow-pipe flame, it melts into an opake milky globule. From the quantity of the precipitate produced by this re-agent, we may learn the quantity of sulphuric acid, which the test has separated from the solution, for 100 parts of the precipitate after being calcined, contain very nearly two-thirds of barytes, and one-third of acid, or 66.6 per cent. of the former, and 33.3 of the latter. Dr. Wollaston assumes 66 parts of barytes, and 34 of sulphuric acid; Berzelius, 65.69 of barytes, and 34.31 of acid. This test, which forms one of the most important instruments in analysis, is also decomposed (like barytic water) by carbonated alcalies; but the precipitate is then soluble in dilute muriatic or nitric acid; and may be prevented, by adding to the solution to be assayed, a few drops of muriatic acid. Or if any excess of alcali has produced a precipitate of carbonate and sulphate of barytes, the two precipitates may easily be separated by mere digestion in dilute muriatic acid, which removes the carbonate of barytes, and does not touch the sulphates.

" Concentrated nitric acid also decomposes a concentrated solution of muriate of barytes, the precipitate is crystallized nitrate of barytes; this is owing to the more sparing solubility of the nitrate, than of the muriate of barytes in water. Hence in this case the precipitate is soluble in water, by which it may be easily distinguished from sulphate and carbonate of barytes. This decomposition of muriate of barytes was first noticed by Mr. Hume. It may serve to guard the young chemist against drawing false conclusions, particularly with regard to the examination of the purity of nitric acid, when examined by means of this test."—p. 196.

We quote the following method of employing *nitrate of silver* as a test of the presence of muriatic acid, as it is of some importance that practitioners should be able to ascertain the purity of the nitric acid which they purchase, and which is too frequently adulterated with the muriatic.

"The solution of silver in nitric acid is an excellent test for discovering muriatic acid, either in a free state, or when combined with other bodies. It produces with it a curdy white precipitate, which is insoluble in water, but readily soluble in liquid ammonia, and which becomes speedily blackened on exposure to light.

"The delicacy of this test is astonishingly great; one grain of common salt, dissolved in 42,250 grains of water, that is, rather more than five pounds of water, is rendered obvious by it; white clouds being produced in the fluid; and this quantity of water, it may be proved, does not contain more than $\frac{1}{108333}$ part of its weight of real muriatic acid.

"In applying this test, certain precautions are necessary, because it is also acted on by alcaline and earthy carbonates, and by sulphuric acid and its combinations. This may be guarded against, by first removing the sulphuric acid by nitrate of barytes; and the action of the carbonates may be prevented by supersaturating them previously with pure nitric acid. The precipitate produced by carbonated alcalies (carbonate of silver), is soluble in dilute nitric acid with effervescence; the precipitate produced by muriatic acid is not."—p. 79.

The following method of ascertaining the quantity of wines and spirit of wine should also be generally known.

"Add to eight parts by measure of the wine to be examined, one part of a concentrated solution of sub-acetate of lead; a dense insoluble precipitate will ensue; it is a combination of the test with the colouring, extractive, and acid matter of the wine. Shake the mixture for a few minutes, pour the whole upon a filtre, and collect the filtred fluid. It contains the brandy or spirit, and water of the wine, together with a portion of the sub-acetate of lead, provided the latter has not been added in excess; in which case a part (of course) remains undecomposed. Add in small quantities at a time to this fluid, warm, dry, and *pure* sub-carbonate of potash, (*not salt of tartar, or sub-carbonate of potash of commerce,*) which previously has been freed from water by heat; till the last portion added remains undissolved. The brandy or spirit contained in the fluid will thus become separated; for the sub-carbonate of potash abstracts from it the whole of the water with which it was combined; the brandy or spirit of wine forming a distinct stratum, which floats upon the aqueous solution of the alcaline salt. If the experiment be made in a glass tube from one half an inch to two inches in diameter, and graduated into 100 equal parts, the per centage of of spirit in a given quantity of wine may be read off by mere inspection."—p. 122,

The chemical characters of the two fixed alkalies so closely resemble each other, that it is extremely difficult to distinguish them, in combinations with other substances, from each other. One of the most delicate tests for this purpose, is *muriate of platinum.*

"This is a valuble test for distinguishing the salts of potash from those of soda; it produces with all the salts of potash a yellow precipitate, which is not an oxide of platina, but a triple salt (prussiate of platina and potash); and it does not effect the salts with a base of soda. In using this test, it is essential that there be no excess of acid; and the solution should be somewhat concentrated. Its action is greater than tartareous acid.

"EXPERIMENT CV.—Add to half-a-test tubeful of distilled water a few grains of potash, or sub-carbonate of potash; and then add a drop of the solution of muriate of platina; the fluid will instantly become turbid, and a yellow precipitate will fall to the bottom of the tube.

"EXPERIMENT CVI.—Add to a like quantity of distilled water, a few grains of soda, or of sub-carbonate of soda, and add to it also muriate of platina; no change will take place, because soda is not precipitable by this test."—p. 128

These examples are sufficient to shew the nature of Mr. Accum's work. That it is not free from errors must be admitted; as, for instance, in the adoption of Kirwan's proposal of using muriate of alumine as a test of the presence of carbonate of magnesia in water; the fallacy of which has been urged by Dr. Thomson: but upon the whole the volume cannot but prove extremely useful, in extending more generally the knowledge of re-agents, and thence that of analytical chemistry.

PART III.

SELECTIONS.

Account of Two Poisons prepared in Java, and the Plants which yeild them. By Dr. HORSEFIELD.

"THE *antshar* is one of the largest trees in the forest of Java. The stem is cylindrical, perpendicular, and rises completely naked to the height of sixty, seventy, or eighty feet. It is covered with a whitish bark, slightly bursting in longitudinal furrows: near the ground this bark is, in old trees, more than half an inch thick, and, upon being wounded, yields plentifully the milky juice from which the celebrated poison is prepared. A puncture or incision being made in the tree, the juice or sap appears oozing out, of a yellowish colour; from old trees, paler; and nearly white from young ones: when exposed to the air, its surface becomes brown. The consistence very much resembles milk, only it is thicker, and viscid. The sap is contained in the true bark (or cortex), which, when punctured, yields a considerable quantity, so that, in a short time, a cup full may be collected from a large tree.

"Previous to the season of flowering, about the beginning of June, the tree sheds its leaves, which re-appear when the male flowers have completed the office of fecundation. It delights in a fertile and not very elevated soil, and is only found in the largest forests. Dr. H. first met with it (the antshar) in the province of Poegar, on his way to Banjoowangee. In clearing the new grounds in the environs of Banjoowangee for cultivation, it is with much difficulty the inhabitants can be made to approach the tree, as they dread the cutaneous eruption which it is known to produce when newly cut down. But, except when the tree is largely wounded, or when it is felled, by which a large portion of the juice is disengaged, the effluvia of which mixing with the atmosphere, affect the persons exposed to it with the symptoms just mentioned, the tree may be approached and ascended like the other common trees of the forests.

"The antshar, Dr. H. observes, like the trees in its neighbourhood, is on all sides surrounded by shrubs and plants: in no instance have I observed the ground naked or barren in its immediate circumference.

"The largest tree I met with in Blambangan was so closely environed by the common trees and shrubs of the forest in which it grew, that it was with difficulty I could approach it. And at the time I visited the tree, and collected the juice, I was forcibly struck with the egregious misrepresentation of Foersch: several young trees spontaneously sprung from seeds that had fallen from the parent, reminding me of a line in Darwin's Botanic Garden,

"Chained at his root two scion Demons dwell."

While in re-calling his beautiful description of the oopas, my vicinity to the tree gave me reason to rejoice that it is founded on fiction.

"The *tshittik* is a large winding shrub. In large individuals it has a diameter of two or three inches, covered with a reddish brown bark, containing a juice of the same colour, of a peculiar pungent, and somewhat nauseous odour.

"From this bark the poison is prepared.

"It is very rarely met with, even in the wilderness of Blambangan.

"The process for preparing the antshar was performed for me by an old Javanese, who was celebrated for his superior skill in preparing the poison. About eight ounces of the juice of the antshar, which had been collected the preceding evening, in the usual manner, and preserved in the joint of the bamboo, were carefully strained into a bowl. The sap of the following substances, which had been finely grated and bruised, was carefully expressed and poured into it, viz—Arum, Nampoo, (Javanese), Kaemferia, Galanga, Kontshur, Amomum, Bengley, (a variety of zerumbed), common onion and garlic, of each about half a drachm; the same quantity of finely powdered black pepper was then added, and the mixture stirred.

"The preparer now took an entire fruit of the capsicum fruticosum or Guinea pepper, and having opened it, he carefully separated a single seed, and placed it on the fluid in the middle of the bowl.

"The seed immediately began to reel round rapidly, now forming a regular circle, then darting towards the margin of the cup, with a preceptible commotion on the surface of the liquor, which continued about one minute. Being completely at rest, the same quantity of pepper was again added, and another seed of the capsicum laid on as before; a similar commotion took place in the fluid, but in a less degree, and the seed was carried round with diminished rapidity. The addition of the same quantity of pepper was repeated a third time, when a seed of the capsicum being carefully placed in the centre of the fluid, remained quiet, forming a regular circle about itself, in the fluid, resembling the halo of the moon. This is considered as a sign that the preparation of the poison is complete.

"The tshettik is prepared bv separating the bark of the root, and boiling it, and after separating the bark from the water, exposing the extract to the fire till it is about the consistence of syrup. After this, the preparation is the same as of the antshar.

"An account of 26 experiments is detailed by Dr. Horsefield, on which he remarks, that he has selected from a large number of experiments, those only which are particularly demonstrative of the effects of the antshar and of the tshettik, when introduced into the circulation. The poison was always applied by a pointed dart or arrow, made of bamboo.

"The operation of the two different poisons on the animal system is essentially different.

"The first 17 experiments were made with the antshar; the rapidity of its effect depends, in a great degree, on the size of the vessels wounded, and on the quantity of poison carried into the circulation.

"In the first experiment it induced death in 26 minutes,—in the second in 13 minutes. The poison from different parts of the island has been found nearly equal in activity.

"The common train of symptoms is, a trembling and shivering of the extremities, restlessness, discharges from the bowels, drooping and faintness, slight spasms and convulsions, hasty breathing, an increased flow of saliva, spasmodic contractions of the pectoral and abdominal muscles, retching, vomiting, excremental vomiting, frothy vomiting, great agony, laborious breathing, violent and repeated convulsions, death.

"The effects are nearly the same on quadrupeds, in whatever part of the body the wound is made. It sometimes acts with so much force, that not all the symptoms enumerated are observed.

"The oopas appears to affect different quadrupeds with nearly equal force, proportionate in some degree to their size and disposition. To dogs it proved mortal, in most experiments, within an hour. A mouse died in ten minutes; a monkey in seven minutes; a cat in fifteen minutes.

"A buffalo, one of the largest quadrupeds on the island, died in two hours and ten minutes, though the quantity of poison introduced in this experiment was proportioned to that which was thrown into the system in the experiments on smaller animals.

"If the simple or unprepared sap is mixed with the extract of tobacco or stramonium, (instead of the spices mentioned in the account of the preparation,) it is rendered equally, perhaps more active.

"Even the pure juice, unmixed and unprepared, appears to act with a force equal to that which has undergone the preparative process, according to the manner of the Javanese at Blambangan.

"Birds are very differently affected by this poison. Fowls have a peculiar capacity to resist its effects. A fowl died 24 hours after the wound; others have recovered after being partially affected.

"In regard the experiments made with the poison prepared from tshettik, its operation is far more violent and rapid than that of the antshar, and it affects the animal system in a different manner; while the antshar operates chiefly on the stomach and alimentary canal, the respiration and circulation, the tshettik is determined to the brain and nervous system*.

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* "Mr. Brodie, in a paper on vegetable poisons, (Phil. Trans. 1811,) has given an account of some experiments made by him

"A relative comparison of the appearances on dissection, demonstrates, in a striking manner, the peculiar operation of each.

"After the previous symptoms of faintness, drowsiness, and slight convulsions, it acts by sudden impulse, which, like a violent apoplexy, prostrates at once the whole nervous system.

"In the two experiments, this sudden effect took place on the sixth minute after the wound; and in another, on the seventh minute, the animals suddenly started, fell down head foremost, and continued in convulsions till death ensued.

"This poison affects fowls in a much more violent manner than that of the antshar, death having frequently occurred within the space of a minute after the puncture with a poisoned dart.

"The simple unmixed decoction of the bark of the root of the tshettik, is nearly as active as the poison prepared according to the process above related.

"The resinous portion of the bark is by no means so active as the particles soluble in water.

"Taken into the stomach of quadrupeds, the tshittik likewise acts as a most violent poison, but it requires about twice the period to produce the same effect which a wound produces; but the stomach of fowls resists its operation.

"The poison of the antshar does by no means act so violently on quadrupeds as that of the tshittik. Dr. H. observes, he gave it to a dog; it produced at first nearly the same symptoms as a puncture; oppression of the head, twitchings, faintness, laborious respiration, violent contraction of the pectoral and abdominal muscles, an increased flow of saliva, vomiting, great restlessness and agony, &c. which continued nearly two hours; but after the complete evacuation of the stomach by vomiting, the animal gradually recovered.

"Rumphius asserts, that a small quantity may be taken internally as a medecine.

"In animals killed by the antshar, the large vessels in the thorax, the aörta and vena cava, were in every instance found in an excessive degree of distention: the viscera in the vicinity of the source of circulation, especially the lungs, were uniformly filled in a preternatural degree with blood, which in this viscus, and in the aörta, still retained a florid colour, and

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with the *upas antiar*, from Java, furnished by Mr. Marsden, from which it appears, that when inserted in a wound, it produces death, (as infusion of tobacco does, when injected into the intestines,) by rendering the heart insensible to the stimulus of the blood, and stopping the circulation."

was completely oxygenated. On puncturing these vessels, it bounded out with the elasticity and spring of life. The vessels of the liver, of the stomach, and intestines, and of the viscera of the abdomen in general, were also more than naturally distended, but not in the same degree as those of the breast. In the cavity of the abdomen, a small quantity of serum was sometimes effused.

"The stomach was always distended with air, and in those instances in which the action of the poison was gradual, and in which vomiting supervened in the course of the symptoms, its internal coat was covered with froth.

"The brain indicated less of the action of the poison, than the viscera of the thorax and abdomen. In some instances it was perfectly natural—in others, marks of a small degree of inflammation were discovered.

"An undulatory motion of the skin, and of the divided muscles, was very evident in some of the dissected animals.

"The appearances observed in the animals destroyed by the tshittik were very different. In a number of dissections, the viscera of the thorax and abdomen were found nearly in a natural state, and the large vessels of the thorax exhibited that condition in which they are usually found after death from other poisons.

"But the brain and the dura mater shewed marks of a most violent and excessive affection. In some instances the inflammation and redness of the dura mater was so strong, that on first inspection, Dr. H. supposed it to be the consequence of a blow previously received, until he found, by repeated examinations, that this is a universal appearance after death from tshittik.

"Rumphius had an opportunity of personally observing the effect of the poisoned darts or arrows on the human system, as they were used by the natives of Macassar, in their attack on Amboina, about the year 1650.

"Speaking of their operation, he says, the poison touching the warm blood, is instantly carried through the whole body, so that it may be felt in all the veins, and causes an excessive burning, and violent turning in the head, which is followed by fainting and death.

"After having proved mortal to many of the Dutch soldiers in Amboina and Macassar, they are said to have finally discovered an almost infallible remedy in the root of the Crinum *Asiaticum*, (called by Rumphius, radix *toxicaria,)* which, if timely applied, counteracted, by its violent emetic effect, the force of the oopas.

"An intelligent Javanese informed Dr. Horsefield, that an inhabitant was wounded in a clandestine manner, by an arrow thrown from a blow pipe, in the fore arm, near the articulation of the elbow. In about fifteen minutes he became drowsy, after which he was seized with vomiting, became delirious, and in less than half an hour he died."—*Journal of Science and the Arts*, IV.

PART IV.

FOREIGN MEDICAL SCIENCE AND LITERATURE.

ANATOMY, PHYSIOLOGY, PRACTICE OF MEDICINE, AND SURGERY.

I.—The state of Medical Science in France has of late years assumed a character which is highly creditable to the professors and practitioners of that country, and has excited much interest in those on this side of the Channel. We feel much gratification, therefore, in being able to lay before our readers a series of letters on its *present state and progress*, by our esteemed friend and correspondent, Dr. Granville; whose opportunities of information are only equalled by his zeal for the promotion of the science, and the soundness of his critical judgment*.

LETTER I,

" *Paris, November,* 1816.

" My present habits and extensive connections afford me great opportunities of observation on the present state and progress of the medical sciences in France; and, as much zeal and activity is here daily displayed in their cultivation by medical men, it is not too much to say, that many important facts must come to my knowledge, which, when communicated to the medical public at large, may excite either emulation, or a flattering self-gratification. A reciprocal communication, an interchange of scientific knowledge, between two nations, which ought to rival each other only in promoting the advancement of every polite art and of scientific knowledge, is a circumstance to be greatly desired; and one which I shall endeavour, as far as lays in my power, and as far as medicine is connected, to bring about. A man of science is a citizen of every civilized country; hence, I consider myself as little a stranger in Paris as in London. Unconnected with every political feeling or national prejudice, our only aim must be to follow calmly the march of science from the capital of Great Britain to the limits of civilization, wherever its traces may be perceived, even in the midst of people whose less liberal modes of thinking may teach us to consider ourselves as in a state of continued hostility. This declaration is a sure warrant of the impartiality with which I shall speak of French medicine and French medical men in the periodical communications that I shall have occasion to send you. My impartiality secures me from reproach; and will make me court that publicity which is necessary to the obtaining those advantages, which, information like that which I shall send to you, may ultimately produce to the medical profession.

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* It is proper to state, that these letters have been read to the Medico-Chirurgical Society, by their author's particular desire. The series shall be continued.

"The principles on which the generality of the present medical men in France act, particularly those connected with the great School at Paris, and consequently its *éleves*, are those of Pinel, as detailed in his *Nosographie*, and the physiological doctrines of Hallé. The examinations of candidates for a Doctor's degree are founded upon them; and no person had ventured to dispute the validity of those principles till a M. Broussais, in a work intitled *Histoire de Phlegmasies*, aimed a powerful blow at the nosographic structure. In this *histoire*, which is now in its second edition, every disorder is traced, after *proper pathological* researches, to a *local* affection of the inflammatory kind. This accommodating manner of viewing infirm nature, brings with it a corresponding advantage in the simplicity of the means by which its sufferings are relieved; which he attempts to do, not, however, with sanguine or other evacuations, but with the *mucilagineux*, the *delayants*, and the *adoucissants*. The success which this doctrine has met with, has divided the Parisian School into two parties; one of which, the *Broussaisse*, feeling now quite strong, published, under the name of "*Examen de la Doctrine Medicale Moderne*," through their chief, a few days since, a work, in which every other medical man professing a different doctrine is treated in the most cavalier-manner imaginable*. Hence is raised up an almost inexhaustible subject of dispute, by which the medical world in France will be for some time distracted; for it would be folly to suppose that M. Broussais' system of a local *mono-malady* will not have proselytes. It has, on the contrary, already a numerous body.

"A M. Villermay has very recently published a Treatise on *hysterics* and *hypochondriasis* in two volumes, which has met with general approbation. It is an excellent work, the production of a man who has had an extensive practice in these two diseases particularly, who has observed much, and ably recorded his observations.

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* We intend soon to lay a review of this work before our readers.—Editors.

"I have lately learned a curious fact relating to that terrible disease *hydrophobia*, which, though not quite recent, has, as yet, been unnoticed, although deserving of the greatest attention on the part of the medical profession. I allude to the experiments which have been made by some medical men of merit in Paris, amongst whom must be distinguished a Dr. *Breschet*, a professor of anatomy, and a young physician of the greatest promise, on the inoculation of the hydrophobic virus*. The experiments were made by inserting under the skin of the posterior part of the neck of an healthy dog the frothy saliva of a man labouring under the baneful influence of the hydrophobic action, in consequence of a bite from a mad dog. The patient exhibited the most evident symptoms of hydrophobia, which, in twenty-four hours, were communicated to the inoculated dog; who, being placed, with some healthy animals of the same species, bit them all in turn, when every one of them became affected with the same disorder; not in a progressively diminishing degree of virulence, but rather the contrary. However barbarous it may be thus to devote helpless victims to premature sufferings and death, when we consider the great light and consequent utility which experiments of such a nature would throw on the hitherto obscure question concerning hydrophobia, it is to be desired that they should be repeated and multiplied, in order to arrive at some satisfactory conclusion.

"Many opportunities occur to me daily of witnessing the difficulty of forming a correct diagnosis in female diseases. As an example of this truth, I may mention a case of cancer affecting the internal genital parts of a young woman, in whom no such disease had been suspected, but whose death had been ascribed to pulmonary consumption. I dissected the subject; and though the previous examination *per vaginam* did not indicate the existence of any particular disease, yet I found, on penetrating into the cavity of the pelvis, that a cancerous affection, beginning in the *ovaria*, both of which were deformed by disease, had spread itself to the *fundus uteri*, whence overrunning the whole substance of that viscus, it attacked, on the one side, the *rectum*, and on the other the *bladder;* both of which it perforated in the most extensive manner. Never have I seen such a mass of disease in so small a compass, nor of such a rapid formation; since the disease, dated from the time of the first coition, according to my opinion, had taken only four or five years to reach its fatal termination. I have made a pathological preparation of this case.

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* Vide *Repository*, vol. ii. p. 512.

"Some old anatomists had mentioned a particular *duct* carrying the secreted bile from the liver immediately into the body of the *vesiculà fellis*. Haller denied the existence of such an anatomical disposition; and all the other anatomists have since agreed in his opinion. It has, however, occurred to me to see, in a recent dissection of another young woman, in whom I had suspected a particular sexual disease, a disposition nearly similar, and not less singular. A short but distinct duct, double the size of the other biliary ducts, implanted into the liver by means of numberless and capillary ramifications, some of which I traced with the scalpel deeply into the substance of that viscus; but one of which, more considerable and external, proceeded to a more distant part of the liver, where it implanted itself in a similar manner, and goes immediately to the *vesicula fellis*, into which it discharged the secreted bile. The *ductus hepaticus* is connected with one of the ramifications of this new canal, the existence of which does not seem to have encroached on that of the ductus cysticus, or choledocus. I have also made a preparation of this, though accidental only in my researches, which are chiefly directed to the pathology of female diseases.

"Several interesting operations have been performed at the different public establishments for medical instruction in Paris. The most remarkable and certainly the most important, is one of Dupuytren for the cure of one of the most loathsome diseases that ever affected mankind. I allude to the *unnatural anus*, which is formed in consequence of wounds of the abdomen and of the intestines. M. Dupuytren has imagined an operation at once simple, ingenious, and effective, for the cure of this local disease. After cleaning the wounded intestine of the surrounding parts, the two ends are brought out of the wound, cut even, and washed. An instrument, consisting of a pair of forceps or pincers, is then introduced into each portion of the intestine so as to inclose between the two flat limbs of the instrument, that part of each of the intestinal portions laying contiguously and apposite to each other; proportionate pressure is then made by closing the hand-part of the pincers by means of a screw; and the instrument is suffered to remain in this situation, supported by appropriate bandages. A salutary inflammation is the immediate result of this pressure, and the adhesion of the intestines on the side of their circumference which has been thus pressed, above and below the instrument, is the ultimate result, while the septum inclosed between the limbs of the pincers is deadened and comes away, leaving the two portions of the intestines healthy and united. The anterior part of the opening now only remains; and this is also cicatrized by means of a slight suture and gentle pressure from the outside, and made on the surface of the abdomen. The diet of the patient during this treatment, is such as will produce only *watery* excrementitious secretion, which soon re-assume the before-interrupted intestinal course, proceeding to the rectum instead of being discharged at the mouth of the wound. Several cases have lately occurred of this interesting operation, all of which have completely succeeded.

" The same surgeon has lately applied the ligature to the iliac artery where it lays in the left *fossa iliaca.* The incision was made in the direction of the lower fibre of the *obliqui*; the fingers past under and outside the *peritoneum*, the artery disengaged, and a ligature applied, which came away eight days afterwards, and the wound healed in a fortnight. I remarked, that M. Dupuytren passed a second ligature a little higher up than the first and effectual one, with a loose knot; the end of which hung out likewise from the wound, and which was intended to serve in case of hæmorrhagy, to secure the artery. The operation, as you may imagine, was performed in consequence of a femoral aneurism very high in the groin. The patient is still alive; but a pulsation is felt near the aneurismal sac, which may, however, be owing to some anastomozing branch of the epigastric artery.

I cannot speak with the same spirit of approbation of another operation performed a few days since by the same surgeon, and which he has performed once before*; I mean the *amputation* of the lower jaw. Nothing can justify such a cruel performance, which leaves the mutilated victim in a state worse than that produced by the certainty of death from the disease which it is intended to cure. In this case the patient had a cancer of the soft parts of the chin and lips. An excision of this was performed, as there was reason to presume the disease reached no further; but on denuding the bone, it was found that this also was affected when the amputation was performed, leaving one of the most horrible sights that a surgeon, in the execution of his profession, is forced to witness.

" The *resection des os* in case of caries of any of the extremities, instead of amputation as hitherto more commonly practised, is now becoming *fashionable.* The celebrated M. Dubois performed it the other day on a patient, whose left humerus presented an extensive carious surface on the anterior part of the cylinder. This portion was removed, after a longitudinal incision of the muscles, by means of a chissel and a wooden hammer, used slowly and in a manner not unlike that of a stone-cutter.

" Amongst the *reveries* to which physiologists are subject, particularly on the continent, that which was lately published by an anonymous writer on the use of the vertebral column is the most amusing. According to this *philosopher*, the vertebral column is nothing else than a voltaic pile, the effects of which, both chemical and electrical, influence or give rise in a great measure to all phenomena of life.

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* Vide *Repository*, vol. iii. p. 432.

"The great work of Alibert is proceeding fast: it will certainly be unique in its kind; and the indefatigable activity of the author, joined to his vast information and great opportunities, promise equally that his present performance will be worthy of his reputation.

"On the whole, I feel great pleasure in publicly avowing, that much is doing and is likely to be done in France; and that the medical men seem to work for the sake of the science itself, to which they feel particularly attached: witness their numerous and continued publications on professional subjects."

LETTER II.

"*Paris, 16th December,* 1816.

"THE man mentioned in my last, in whom *Dupuytren* had tied the crural artery, is doing very well. He has been removed from the hospital to a private house. Almost all the patients operated upon by this surgeon for the artificial anus, have perfectly recovered, and do not feel the least inconvenience from the result of his new mode of operation. This gentleman is at this moment engaged in devising an instrument for making an adequate pressure on the two ends of the intestine after their union has been effected, to promote their complete adhesion. He is also about to publish some important facts on fractures of the fibula.

"I am not aware of any thing very interesting having occurred in the practice of Dubois since my former communication. M. Boyer, known as the author of a Treatise of Anatomy, which is in the hands of every medical student in Paris, and of a work on Surgery, of which he has recently published a fifth volume, has lately read a memoir on strictures of the sphincter of the rectum occurring in consequence of obstinate and protracted constipation. M. Boyer relates several cases in which the patients incurred a certain degree of danger, and seemed to suffer considerably from an affection of this kind; the best and surest mode of relieving which, seems to be the incision or perfect division of the sphincter, which M. Boyer has more than once practised with success; particularly in a case of great importance, which he detailed to the Academy of Sciences, and in which he was obliged to divide the sphincter laterally, and in two places, before he could afford any material relief.

"Amongst the innovations which are often proposed or brought forward in the medical profession, without any chance of improving its practice, we may, I think, reckon that of M. *Ellviou*, a country surgeon I believe, who is desirous of substituting a simple and small perforator to the trephine in operations for diseases of the head. He thinks, for instance, that in cases of extravasated blood or pus under the skull, from any cause, a small opening like a hole, would be sufficient to effect its evacuation; and that at the same time all contact of the atmospheric air with the uncovered surface of the superior meninge would be thus avoided; thereby preventing the many dangerous consequences which result in cases of trepanning. But it might be observed to him, in answer to his proposition, and his objections to the old method of operating, that the pressure of the external air would be more than enough to counteract the pulsating action of the brain, on which he depends for the expulsion of the extravasated pus, and would therefore impede the issue of that fluid; and that no serious bad consequence has ever been known to occur after trepanning, from the action of external air on the exposed surface of the meninge when the proper precaution have not been neglected. One of the most curious features of M. Ellviou's proposition, is, the manner in which he answers an objection which he imagines might be made to his perforator where it is required to evacuate an extravasated fluid from under the cranium; but of which the exact spot of the deposit is unknown. Nothing, he thinks, can be so easy. 'Perforate,' says he, 'here and there till you have hit upon the right place.' His memoir was read at the Institute, and properly commented upon by the senior *Pelletan*, who is not over-fond of juvenile innovations in the practice of surgery.

" *Dr. Broussais*' Theory of Universal *Phlegmasie* prevails, I think; and there are pupils who pretend that he works miracles. He now explains his system by lectures, which are fully attended. A case, amongst many, has been referred to me, of a Colonel having what is here called an asthenic rheumatism in one of the knees; for which the ordinary physicians had in vain prescribed their stimulants, their rubefacient, and their frictions; and which *Dr. Broussais* quickly and perfectly cured by means of his *adoucissants* and his *mucilagineux;* with however another effective remedy, namely, the successive application of leeches, to the number I am informed of seventy or eighty. We shall soon see what the elders of the faculty will say to this. But recollect, that good or bad, his theory of universal inflammation belongs to *Dr. Tommasini*, I think, of Padua.

" You have, no doubt, heard of the late experiments made by *Dr. Majendie*, with a view of ascertaining whether the azote in animals be or be not derived from their aliments; and finding out at the same time whether substances, deprived of azote, be really as nutritive as some of them have been supposed to be. It would have occurred to any one, thus determined to make experiments on this subject, that the safest way of coming to any accurate conclusion, would have been to submit animals to the use of substances deprived of azote, without however changing, in any considerable degree, their usual diet; that the bad effects of the latter circumstance might not interfere with the real result of the experiment. But *M. Majendie* thought otherwise; and taking an unfortunate fat healthy dog which had been fed on butcher's meat and bones for three years before, he submitted it exclusively to the use of sugar and distilled water. This animal died, and so did a second and a third, exhibiting one of the common symptoms accompanying the death of animals from starvation; namely, the opacity and ulceration of the cornea and the consequent drying of the humours of the eye. The same experiments were repeated on other dogs, with the difference however of butter, oil, and gum being employed instead of sugar, and the same results were obtained. What possible conclusion, I ask, can be drawn from all this, which can be of the least service in unravelling the deep mystery of nutrition? or how far can the experiments prove whence the animals get their azote? since even in the dogs operated upon, some azote was found on examining their excrements and their urine. Why not, if sugar was to be employed, treat with it herbivorous animals, in which the change would not have been so materially felt? But Dr. Majendie says in his Memoir, '*les chiens se nourissent également bien, comme les hommes des substances végétales et animales.*' This is incorrect. Dogs will certainly live well on bread, but not on cabbage; and therefore the assertion, in a general sense, is a perfectly gratuitous assertion, and leaves still this great objection to his experiments unanswered; that the fatal effects produced by sugar, butter, oil, &c. are in a great measure due first to the sudden and unseasonable change of diet in the animals, and next to the administration of a food improper for carnivorous animals. Besides, does not Dr. Majendie know, that the presence of a peculiar and strong acid in sugar, oil, and butter would of itself, when made to act repeatedly, or rather incessantly, on an empty stomach, without any other corrective to neutralize its bad effects, produce the consequences which he has so hastily attributed to the mere absence of azote? Has he proved by his experiments that azote is not the produce of animalization, as it has since been ascertained that the oxygene found in the swimming bladder of fishes living at great depths in the sea, is a secretion peculiar to those animals?

No one has a greater respect than myself for Dr. Majendie; a circumstance which alone induces me to notice his foibles as openly as I have praised his important researches.

" I revert with pleasure to something more positive. *Dr. Fouquier*, of the *Hôpital de la Charité*, has given with great advantage the nux vomica in cases of partial paralysis. Several cases have been discharged cured, and some are in the hospital now in a fair way of doing well. The remedy is given in pills to the dose of four or five grains a day. *Dr. Breschet*, a promising physician, of whom I spoke in my last, has administered the same remedy at the *Hôpital St. Louis*, and with the same good effects. One singular circumstance however has occurred in his practice relative to this medicine, which may serve to throw some light on its mode of action. A patient, whose right side of the body is affected by palsy, had wilfully neglected to take the pills regularly every night. Dr. Breschet perceived this from his state of health, and upbraided him for his improper conduct. The man, goaded by these reproaches, and thinking to supply the deficiency, swallowed the whole of the pills he had collected, to the number of four and twenty. Immediately strong symptoms of poison, such as occur when nux vomica, in a large dose has been taken, supervened; and the patient would have suffered for his temerity, had not immediate assistance relieved him. The convulsions, however, which always accompany this sort of poison, continue at this moment; and what is singular, are manifested only in the affected part; so that the arm, which before was lifeless, is now strongly and constantly agitated.

" There is now lying in one of the dissecting pavillions at the *Hôspice de Perfectionnement*, a female subject exhibiting an instance of complete reversion in the principal organs and viscera. The heart is situated in the right side of the chest; and the aorta forms its great arch on the right also, although the curve of the vertebral column, where that arch is formed in all ordinary cases, is even in this case to the left: a circumstance which would be favourable to the theory of Bichat, who asserted that the curve in question was not owing, as physiologists think, to the arch of the aorta. The stomach pends to the left; and the duodenum, cœcum, and liver, are situated in the left hypochondrium; while the spleen is on the right side of the body. The subject seems in every other respect well formed, and was fifty years old at the time of her death. It is ascertained that she was right-handed; a circumstance which tends materially to invalidate Sig. *Zecchinelli*'s theory on the use of the right hand in preference to the left, lately published in Italy; wherein he pretends, that the right hand has been preferred, *ab origine*, from having remarked that the continued use and long agitation of the left arm produces a corresponding trouble and agitation in the circulation of the blood, from the vicinity of the heart and the prevalence of the arterial system in the left over the right side of the body. The subject in question I have myself seen and examined this morning. Three or four similar cases are recorded, I believe by different writers.

"The medical press has not been so busy since my last communication as during the autumnal months. In the seventeenth volume of the Dictionnaire des Sciénces Medicales are some very interesting articles, particularly upon itch, hallucination, and mad-houses. But I cannot now enter into any details respecting their merits or their contents.

"You will perhaps smile at the incredulity of the French surgeons here, when I inform you, that neither *Dumeril*, nor *Deschamps*, nor *Larrey*, will believe in the truth of the nasal operations performed by Carpue. They are inclined to consider the thing as a *charlatanerie*. I told two of them I had seen the result of the operation; but in return I was asked, whether I had seen the operation itself? There is no answering such argumentations. A. B. GRANVILLE."

II. — *Successful Amputation in the Eighth Month of Pregnancy.*

"Marie Bart, 24 years of age, sanguine temperament, was carried to the Hospital of *Beaujon* on the 23d of July 1815, with numerous wounds from the bursting of a shell: a deep and extensive contused wound on the inner side of the left leg; the inferior extremity of the tibia fractured; the ankle joint exposed; and the astragalus splintered. The right leg was also much wounded, the tendo Achillis torn, and the posterior tibial artery divided. This last was immediately secured. The woman declared herself to be in the eighth month of pregnancy; but as it was evident that she must perish, unless the left leg was removed, amputation was performed without delay. The other limb was dressed as well as circumstances would permit. In the evening of the same day there was very high fever. This gradually decreased, and by the 4th day disappeared. On the 5th day suppuration was established, both in the stump and in the other wounds. On the 7th day there was violent fever, preceded by cold chills and pains in the abdomen. By the 8th day the fever assumed a remittent form, which continued till the 14th. On the 13th day the ligatures came away. Next day the bark was administered. By the 22d day the fever was gone. The wounds of the right leg were very troublesome, with tedious and considerable suppurations. On the 37th day she had labour pains; and next day was delivered of a fine child. The right ankle and foot at this time were in a dreadful state of disease. Nevertheless, she perfectly recovered; and on the 81st day was able to march, as the English took possession of the hospital."—*Bulletin de la Faculté et de la Société de Medecine*, No. viii. October 1816.

CHEMISTRY.

III.—*Observations on Animal and Vegetable Charcoal.* By Professor Doebereiner*.

" M. Gay Lussac, in his analysis of prussic acid, has demonstrated that carbon combines with azote in the proportion in bulk of 6 to 3 to form cyanogen, and in that of 6 to 2 to form the carbonized substance, which remains after the spontaneous decomposition of prussic acid, to which he has given the name of *azoture of carbon;* but he has not determined the relation in which these two bodies exist in the charcoal obtained by the distillation of animal matters: this defect I propose to supply.

" Five grammes of animal charcoal obtained from gelatin, and freed from its phosphate of lime, by being successively treated with hydrochloric acid and water, at the temperature of 100, were mixed, after being well dried, with 74 grammes of oxide of copper, and exposed in a glass tube to the action of heat. Very soon an elastic fluid, devoid of odour and colour, was disengaged, and found to be a mixture of 85 parts of carbonic acid gas, and 15 of azotic gas; which were nearly six parts of the former to one of the latter, or rather six volumes of the vapour of carbon to one of azotic gas, in admitting, with Gay Lussac, that carbonic acid contains one volume of the vapour of carbon. Hence we conclude that there exist three combinations of carbon with azote:

$$1.\ \text{Animal Charcoal.} = \left\{\begin{array}{l}\text{6 vol. of vapour of carbon.}\\ \text{1 vol. of azote.}\end{array}\right.$$

$$2.\ \text{Azoture of Carbon.} = \left\{\begin{array}{l}\text{6 vol. of vapour of carbon.}\\ \text{2 vol. of azote.}\end{array}\right.$$

$$3.\ \text{Cyanogen.} = \left\{\begin{array}{l}\text{6 vol. of vapour of carbon.}\\ \text{3 vol. of azote.}\end{array}\right.$$

" Vegetable charcoal, so different from animal charcoal in its external characters, differs still more from it in its chemical properties. Hydrogen holds the place of the azote in the animal charcoal; and I have endeavoured to ascertain whether it is combined with the carbon. In heating a mixture of willow charcoal, which had been dried at a strong red heat, and oxide of copper, in exactly equal proportions, and passing the gas which was disengaged over Chlorure of Calcium, I found that this charcoal is composed of 12 parts in bulk of vapour of carbon, and 1 of hydrogen. Charcoal not reddened, but dried at a temperature of from 125 to 150, being treated like the preceding, yielded 9 parts in bulk of carbon, and 1 of hydrogen.

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* *Schweigger's Journal*, vol. xvi. p. 86, and *Annales de Chimie et de Physique*, tome iii. p. 208.

"In heating plumbago red with oxide of copper, I have not perceived any trace of water, although MM. Thenard and Gay Lussac assert that they had obtained it from hydrochloric acid in making it pass from chlorine over plumbago heated to redness*.

"I have long regarded the base of charcoal, which is known under the name of *carbon*, of a metallic nature; because it amalgamates with iron and many other metals, and forms with the former a compound, in some degree more perfectly metallic than the iron itself; but I had not been able to procure this base until the present moment.

"In exposing to the utmost heat of a potter's furnace a mixture of two parts of fine iron filings, one of oxide of manganese, and one of soot, I obtained an alloy of iron and manganese, and a substance attractable by the magnet, of a greenish black colour, of a metallic splendour, in thin scales, adhering to one another, and very much resembling the plumbago which is found in iron founderies. This substance, treated with aqua regia, till it ceased to attack it, then washed with boiling hydrochoric acid, and finally with water, preserved its colour, metallic brilliancy, and lamellated form; but was no longer attracted by the magnet. It conducted electricity, and was volatilized, without *being consumed*, after being exposed for half an hour in an open crucible. In heating it with oxide of iron, I obtained an inflammable gas, which yielded carbonic acid gas when burnt with oxygen; consequently it must be regarded as carbon.

"From these observations it is evident, that the black subtance which resisted the action of aqua regia is metallic carbon, which may be denominated *metal of charcoal*, or *carbonium*; for if it be admitted that a high degree of brilliancy, opacity, combustibility or oxidibility, and the property of conducting electricity, are the essential properties of metals; we must class with them a substance possessing the characters above described†.

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* M.M. Thenard and Gay Lussac are not the only chemists who have announced that plombago contains hydrogen. Guyton Morveau remarked the production of water during the combustion of the plumbago of Keswick.—*Ann. de Chimie*, tome lxxxiv. p. 241: and Sir H. Davy in that of Borrowdale.

† As we have already noticed (*Repository*, vol. vii. p. 29), Dr. Thomson has suggested that this substance may be carburet of manganese.—Editors.

PART V.

MEDICAL AND PHYSICAL INTELLIGENCE.

I.—SOCIETIES.

Royal Society.—The 29th of November, being the anniversary of this society, the following election of officers took place for the ensuing year. On examining the lists it appeared that the following gentlemen were elected:—The Right Hon. Sir Joseph Banks, Bart. G.C.B. President:—Samuel Lyons, Esq. Treasurer:—Taylor Coombe, Esq. and William Thomas Brand, Esq. Secretaries: —*Of the Old Council*, Right Hon. Sir Joseph Banks, Bart. G.C.B.; John Barrow, Esq.; Samuel, Lord Bishop of Carlisle; Taylor Coombe, Esq.; Sir Humphry Davy, Knt. LL.D.; Sir Everard Home, Bart.; Samuel Lysons, Esq.; George Earl of Morton; John Pond, Esq. Astr. Royal; William Hyde Wollaston, M.D.; Thomas Young, M.D.:—*Of the New Council*, W. T. Brande, Esq.; J. G. Children, Esq.; J. W. Croker, Esq. M.P.; Chas. König, Esq.; Alex. M'Leay, Esq.; Alex. Marcet, M.D.; Colonel Wm. Mudge; W. H. Pepys, Esq.; George John Earl Spencer; Sir John Thomas Stanley, Bart.—December 5. Mr. Todd, through the hands of Sir Everard Home, communicated the result of some additional experiments made on Torpedoes at La Rochelle. The subjects he now operated on were one eight and the other eighteen inches long, but they developed no new facts. He found the shocks greater, as might be expected, by improving the conductors, in applying the one hand to the animal, while the other held the scalpel which was brought in contact with the electric organs. The organs, it appears, proceed from the medulla oblongata.—Dec. 12. The President, happily, was again able to resume his chair, and Mr. Brande read a paper containing the results of his experiments on a species of Chinese galls, which were given him by Sir Joseph Banks to analyse. It appears that these gall are very valuable for dyeing, or making ink, and that the Chinese use them for their black dyes; they yielded 75 per cent. of the astringent principle, containing oxalic and gallic acid, but no extractive matter. The residuum was chiefly woody fibre. As these galls contain no extractive matter, they are consequently unfit for tanning, and in this respect they differ from all other galls, or even from catechu.

II.—SURGICAL.

Extract of a letter from a medical Gentleman in the country, dated 7th of January, 1817.

"A gentleman was nearly suffocated by cynanche laryngea, and the operation of bronchotomy was performed low down in the trachea. The relief was instantaneous; but the membraneous thickening, or whatever other organic change in the larynx, has hitherto remained unsubdued; and at this date, he has breathed *nine weeks* entirely through the tube.

"The tube gives him very little uneasiness; he eats, drinks, and sleeps, as well as in perfect health; and, in short, there does not appear to be any chance of his living, but by a *silver larynx* close down to the sternum!" The particulars of this most singular case will, ere long, be published. M.

III.—MEDICAL.

Lithocele.—Dr. Pfahler has communicated the case of a man, from whom, when seven years old, two calculi were taken by incision from the scrotum. At thirty-one years of age he suffered from a similar complaint: calculi had formed in the anterior part of the left side of the scrotum; whence three were extracted, weighing together one ounce and a half. The testicle was exposed by the operation, and a quantity of fœtid urine flowed from the wound, and, along with it, eleven calculi of the size of lentils. Upon wiping the interior of the scrotum, more calculous matter adhered to the lint. Nothing, however, would heal the wound, until a catheter was introduced into the bladder, through the urethra, by which the urine flowed for six weeks, when the parts united, and a cure was effected.

IV.—CHEMICAL.

Frigorific Mixture.—Dr. Macculloch has announced the following very easy and effective mode of producing cold. Take equal weights of snow and alcohol at the temperature of 32°, and mix them together. During the solution, the temperature of the mixture will fall as low as — 17°, amounting to 49° of Fahrenheit.

Carbonate of Magnesia.—Mr. Edmund Davy, of the Cork Institution, has ascertained, that the admixture of this substance with new flour, in the proportion of from twenty to forty grains to a pound of flour, improves it, rendering the bread baked with it light, spongy, well tasted, and capable of being kept.

V.—PHARMACEUTICAL.

Atropa Belladonna. — A Correspondent observes, that he has found this narcotic very beneficial in various nervous, as well as inflammatory, affections. The form he uses and recommends is a tincture, of which the following is the formula:

℞ Extracti Atropæ Belladonnæ, ℨx.

Spiritus vini tenuioris, f℔ j. — Macera per dies viginti, et cola.

Of this tincture, ♏ v. is a dose for an adult on ordinary occasions.

In inflammatory affections, it is more useful than the tinctura opii; especially in cases of ophthalmia. He contends, that it's well known influence on the nerves, as is exemplified in a very marked manner when applied to the eye, entitles it to more confidence than opium. He has further tried its effects as a fomentation, by boiling of the dried leaves, instead of poppy-heads; from which he has experienced the very best results.

VI.—OBSTETRICAL.

Hysteromochlion, or *Vectis Uterinus.*—Mr. *Richter* of Moscow has invented an instrument, which he announces by this name, for the replacing of prolapsus vaginæ and invertio uteri during pregnancy. He observes, that he was led to the invention from the impracticability of accomplishing this end, in a case he had, by the usual method.—The instrument consists of a steel rod, bent according to the axis of the pelvis, and fixed in a wooden handle. At the top of the steel rod is fixed a truncated cone of cork, covered with soft leather, and concave on the upper surface.

In making trial of it, he placed the woman in a bent posture, resting upon her knees and elbows. He then introduced the instrument, conducting it by the fore-finger of the left hand along the back part of the vagina, so that the convexity of the rod was directed backwards, till the concave surface of the cone received the prolapsed part of the uterus; and then, by means of the handle of the instrument, he lifted the uterus forward with his right hand; when the uterus suddenly, and with some noise, returned to its proper situation in the pelvis. The prolapsus vaginæ, with all its concomitant painful symptoms, were immediately removed, and the pregnancy went on in the usual manner.

Mr. Richter thinks this instrument would be useful, in general, in all cases of obliquity, prolapsus, and inversion of the uterus.

VII.—NOTICES OF LECTURES.

We understand, that the Course of Lectures on Human and Comparative Anatomy, annually delivered at the Royal College of Surgeons, has, on account of its interference with the other duties of the Pupils, been postponed till May.

Middlesex Hospital.—Dr. Merriman and Dr. Ley will re-commence their Lectures on the Practice of Midwifery and the Diseases of Women and Children at the above Hospital, on Monday, February 17th, at half-past 10 o'Clock.

Mr. Stevenson purposes delivering his annual Course of Lectures on the Anatomy, Physiology, and Pathology of the Eye and Ear early in Spring. Apply to Mr. Stevenson, 105, Great Russel St.

VIII.—MISCELLANEOUS.

Royal Institution for the Cure of Diseases of the Eye.—We very unintentionally omitted to mention that the medical department of this new Institution is under the superintendance of Dr. Charles Forbes of Argyle Street.

Medical Circulating Libraries.—We have seen a letter announcing the formation of a *Medical Circulating Library* at Wakefield in Yorkshire, with some observations on the great utility of similar establishments. We cannot but heartily wish success to this and every other plan, calculated, at an easy expense, to inform inquirers, and to widely diffuse improvements in the healing arts.

Informations for Selling Spirits of Wine.—As a caution to Apothecaries and others, we advise them of two men, who call themselves Field and Norrington, being about the country laying informations against Apothecaries, &c. for selling small quantities of spirits of wine, and not having a licence for the selling of spirituous liquors. They have been particularly active in the neighbourhood of Salisbury. We remember similar proceedings in London some years ago: and although we do not profess to know the exact legality of such transactions, yet the consequence was, that no Apothecary would afterwards venture to retail spirits of wine.

A METEOROLOGICAL TABLE,

From the 21*st of December* 1816, *to the* 20*th of January* 1817,

KEPT AT RICHMOND, YORKSHIRE.

230 Miles NW from London.

D.	Barometer.		Therm.		Rain Gage.	Winds.	Weather.
	Max.	Min.	Max	Mm.			
21	29 66	29 60	29	23	M Snow	SW.	1 Sun... 4 Cloudy...
22	29 63	29 35	36	25	15	SW.SW...	1 Sun... 4 Cloudy..
23	29 22	28 99	44	36		SW...SW....	1 Sun..
24	29 23	29 15	45	33	03	sw....wsw..	1 Sun. 2 Rain. 4 Starl...
25	29 12	28 75	43	35		SW..SW....	1 Sun...
26	28 93	28 86	44	34	10	SW...	1 Rain.. 3 Sun. 4 Mn..
27	29 21	29 05	37	30		SW...	1 Sh of Snow. & Sun..
28	28 84	28 63	44	34	47	SW..SW....	1 Cloudy... 3 Rain....
29	29 60	29 56	39	28		wnw...nw..	1 Sun...
30	29 47	29 38	36	29	M Snow	E.	1 Cloudy.. 3 Snow.
31	29 27	29 02	38	34	13	E.	1 Mist.. 2 Rain.
1	28 88	28 84	42	36	01	S..	1 3 Sun.. 2 R. 4 Moon..
2	29 02	28 90	41	32		SW..	1 Sh. & Sun.. 4 Moon...
3	29 08	28 53	38	33	36	SW..SE..	1 Sun.. 2 Cy.. 3 Rain....
4	29 17	28 48	45	35	07	SW...	1 Sun.. & Showers.
5	29 11	28 94	38	33	07	SW...	1 Sun.. & Showers.
6	29 84	29 42	38	31		NW..	1 S. & Sh. 3 S... 4 Mn....
7	29 98	29 94	38	31		WNW..	1 Sun....
8	30 03	29 94	33	29		E.SE.	1 Sun. & Mist...
9	30 05	29 99	37	30		SSE.SW..	1 Sun..
10	29 96	29 92	44	35	07	SW...	1 Cloudy.. 4 Rain.
11	29 86	29 74	44	38		SW..	1 4 Cloudy.. 2 3 Sun:...
12	29 63	29 33	42	36		SW..	1 4 Cloudy.. 2 3 Sun..
13	29 12	29 09	40	33		SW..W...	1 4 Cy. 2 Sun. 3 Rain.
14	29	28 75	36	27		NW..	1 Sun..
15	28 91	28 85	30	25		WbN.	1 Cy.. 2 Sun.. 4 Starl....
16	28 38	28 35	35	27	M Snow	SSE..	1 Cloudy... 2 Snow..
17	28 46	28 42	38	33	11	SW..S..	1 Cy.. 2 Sun. 4 Showers
18	28 65	28 60	40	34		SW....S..	1 Cloudy.. 2 Sun..
19	28 52	28 31	40	36	11	SE..	1 Mist.. 4 Rain..
20	28 86	28 46	43	34	06	SE..	1 Rain.

THE quantity of rain during the month of December was 2 inches 42-100ths, but the measure must be inaccurate, as much snow was lost from the funnel of the rain guage.

Observations on Diseases at Richmond.

The disorders that have been under treatment this period were Apoplexia, Cephalalgia, Colica, Convulsiones, Cynanche Tonsillaris, Diarrhœa, Dyspepsia, Dysuria, Febris Catarrhalis, Febris Simplex, Menorrhagia, Obstipatio, Pneumonia, Podagra, Rheumatismus Acutus, Urticaria.

METEOROLOGICAL TABLE FOR LONDON,

From the 20th of DECEMBER 1816; to the 20th of JANUARY 1817,

By Messrs. HARRIS & Co.

Mathematical Instrument Makers, 50, High Holborn.

M.	D.	Therm.			Barom.		Rain Guage	De Luc's Hygrom. Dry.	Damp.		Winds.		Atmo. Variation.		
	20	30	34	30	30^{3}	30^{6}	Rain Guage frozen.		5	5	NW	N	Fine	——	——
●	21	32	35	32	30^{4}	30^{1}			7	7	N	E	Fog	——	Fine
	22	33	37	32	30	29^{8}			9	9	SE	SE	Fog	Clo.	Fine
	23	33	39	34	29^{7}	29^{7}			8	9	SSE	S	Fog	Fine	——
	24	42	45	40	29^{9}	29^{6}			10	10	SW	SW	Clo.	Rain	Clo.
	25	41	43	40	29^{6}	29^{6}			8	8	S	SE	Fine	——	——
	26	41	45	39	29^{4}	29^{5}			10	10	SW	SW	Rain	Clo.	Fine
	27	40	42	38	29^{5}	29^{6}			10	12	S	S	Clo.	——	Rain
	28	39	41	36	29^{4}	29^{3}			12	15	Sva	Sva	Rain	——	Clo.
◐	29	36	40	36	29^{4}	29^{4}			15	12	W	WNW	Fine	——	——
	30	37	40	38	29^{6}	29^{7}			10	10	E	SE	Rain	——	——
	31	38	41	39	29^{9}	30			14	11	S	SE	Rain	——	Clo.
	1	40	45	36	29^{6}	29^{4}	12		15	15	SE	S	Rain	Clo.	——
	2	39	40	31	29^{6}	29^{8}			10	10	S	SW	Fog	Clo.	Fine
	3	31	36	29	29^{8}	29^{6}			8	10	S	SSW	Fine	Clo.	——
	4	29	32	30	29^{5}	29^{3}			8	8	SW	SW	Fine	Clo.	——
	5	30	32	31	29^{6}	29^{7}			7	6	WSW	W	Fine	Clo.	Sno.
○	6	33	40	30	29^{5}	29^{3}			9	10	SW	WNW	Fine	Rain	Clo.
	7	32	38	31	29^{2}	29^{4}	74		10	10	NW	NW	Clo.	——	——
	8	31	35	31	29^{9}	30^{4}			10	10	W	S	Fog	Rain	Clo.
	9	30	32	28	30^{5}	30^{3}	20		12	10	SE	SE	Fog	Clo.	——
	10	29	32	28	30^{3}	30^{5}			12	14	SW	SW	Clo.	Rain	Clo.
	11	29	32	29	30^{4}	30^{2}	32		12	12	SW	SW	Fog	Clo.	——
	12	30	35	30	29^{9}	30			10	10	SW	SW	Clo.	——	——
	13	36	37	32	29^{5}	29^{6}			10	10	SW	W	Fine	Clo.	Fine
	14	33	35	30	29^{5}	29^{5}			10	12	WSW	SW	Fine	——	Clo.
●	15	31	33	27	29^{4}	29^{5}	64		13	12	ENE	W	Sno.	——	Fine
	16	29	31	39	29^{1}	28^{9}	43		11	15	WSW	SSW	Rain	——	Clo.
	17	43	44	39	28^{9}	29			15	15	S	S	Clo.	Rain	Clo.
	18	41	43	39	29^{1}	29^{1}			15	13	S	S	Fine	——	——
	19	42	44	40	29	28^{9}	15		15	15	SE	SE	Fine	——	Rain

The quantity of Rain that fell in the month of December cannot be given, the Guage having been frozen the prior part of the month.

BILL OF MORTALITY *from December 17, 1816, to January 21, 1817.*

		Dec. 24.	Dec. 31.	Jan. 7.	Jan. 14.	Jan. 21.	
CHRISTENED.	Males	178	113	212	270	235	
	Females	134	109	217	229	232	
		312	222	429	499	467	Total, *(five weeks)* 1929.
BURIED	Males	187	136	190	225	223	
	Females	177	136	181	194	236	
		364	272	371	419	459	Total, *(five weeks)* 1885.
OF WHOM HAVE DIED	Under 2 Years	93	78	126	138	143	
	Betw. 2 and 5	40	38	37	47	43	
	5 and 10	23	17	17	16	27	
	10 and 20	14	8	15	12	13	
	20 and 30	18	13	26	26	29	
	30 and 40	30	25	29	39	38	
	40 and 50	39	27	32	32	44	
	50 and 60	36	21	27	31	33	
	60 and 70	30	19	27	33	37	
	70 and 80	20	16	26	27	28	
	80 and 90	15	5	7	12	16	
	90 and 100	4	4	2	6	8	
	100	1	1	0	0	0	
	105	1	0	0	0	0	
SMALL POX		25	15	16	3	27	

Total of Small Pox...*(five weeks)*...86.

A REGISTER OF DISEASES

Between *DECEMBER* 20*th*, 1816, and *JANUARY* 19*th*, 1817.

DISEASES.	Total.	Fatal.
Abortio	12	
Abscessio	21	
Acne	6	
Amenorrhœa	22	
Amentia	1	
Anasarca	15	1
Anorexia	5	
Aphtha *lactentium*	12	
—— *anginosa*	1	
Apoplexia	6	5
Ascites	11	2
Asthenia	66	3
Asthma	88	9
Atrophia	4	
Bronchitis *acuta*	10	1
—— *chronica*	20	1
Calculus	2	
Cancer	6	
Carbunculus	3	
Cardialgia	15	
Catarrhus	144	
Cephalalgia	28	
Cephalæa	1	
Chlorosis	11	
Chorea	2	
Cholera	19	
Colica	22	
—— *Pictonum*	3	
Convulsio	10	1
Coryza	3	
Cynanche *Tonsillaris*	44	
—— *maligna*	1	
—— *Trachealis*	3	
—— *Parotidea*	12	
—— *Pharyngea*	3	
Diarrhœa	72	1
Dysecœa	1	
Dysenteria	17	2
Dyspepsia	71	
Dyspnœa	21	
Dysuria	6	
Ecthyma	2	
Eczema	1	
Empyema	1	
Eneuresis	1	
Enteritis	3	1
Eutrodynia	20	
Epilepsia	3	
Epistaxis	8	
Erysipelas	14	
Erythema *læve*	4	
Febris *intermittent*	15	
—— *catarrhalis*	78	
—— *Synocha*	14	
—— *Typhus mitior*	8	
—— *Typhus gravior*	6	5
—— *Synochus*	15	1
—— *Puerpera*	3	
—— *remit. Infant*	26	1
Fistula	4	
Fungus	2	
Furunculus	8	
Gastritis	2	
Gastrodynia	34	
Gonorrhœa	22	
Hæmatemesis	2	
Hæmoptöe	17	
Hæmorrhois	18	
Hemiplegia	8	2
Hepatalgia	5	
Hepatitis	12	3
Hernia	9	
Herpes *Zoster*	2	
—— *circinatus*	3	
—— *præputialis*	2	
Hydrocephalus	7	3
Hydrothorax	8	2
Hypochondriasis	10	
Hysteralgia	2	
Hysteria	19	
Hysteritis	2	
Icterus	8	
Impetigo *figurata*	1	
—— *sparsa*	6	
—— *erysipelatodes*	3	
—— *scabida*	3	
Ischuria	2	
Lepra	1	
Leucorrhœa	16	
Lichen *simplex*	2	
Lumbago	5	
Mania	9	
Melancholia	7	
Menorrhagia	26	
Miliaria	1	
Morbi *Infantiles**	104	1
Morbi *Biliosi**	62	
Nephritis	1	
Neuralgia	9	
Obstipatio	36	

DISEASES.	Total.	Fatal.	DISEASES.	Total.	Fatal.
Odontalgia	15		Psoriasis *inveterata*	11	
Opththalmia	23		Pyrosis	2	
Otalgia	2		Rachitis	1	
Palpitatio	2		Rheumatismus *acutus*	42	
Paralysis	10	3	——— *chronicus*	59	
Paraplegia	1		Rubeola	34	1
Paronychia	4		Scabies	67	
Pericarditis	1		Scarlatina *simplex*	16	
Peripneumonia	19		——— *anginosa*	19	
Peritonitis	6		Scirrhus	3	
Pernio	16		Scorbutus	2	
Pertussis	36	2	Scrofula	11	
Phlegmasia *dolens*	7		Spasmi	22	
Phlogosis	17		Strictura	4	
Phrenitis	1		Strophulus *intertinctus*	1	
Phthisis *Pulmonalis*	35	14	——— *confertus*	3	
Pityriasis	3		Syncope	2	
Plethora	9		Syphilis	27	
Pleuritis	20	1	Tabes Mesenterica	6	3
Pleurodyne	11		Vaccinia	50	
Pneumonia	54	11	Varicella	12	
Podagra	14		Variola	26	7
Porrigo *larvalis*	5		Vermes	28	
——— *decalvans*	1		Vertigo	18	
——— *scutulata*	3		Urticaria *febrilis*	7	
——— *favosa*	2		——— *evanida*	3	
Prolapsus	8				
Prurigo *mitis*	5		Total of Cases	2385	—
——— *senilis*	5				
Psoriasis *guttata*	16		Total of Deaths		86

* *Morbi Infantiles* is meant to comprise those Disorders principally arising from dentition or indigestion, and which may be too trivial to enter under any distinct heads; *Morbi Biliosi*, such Complaints as are popularly termed *bilious*, but cannot be accurately classed.

Observations on Prevailing Diseases.

THE immense quantity of rain that has fallen in the last month has every where super-saturated the earth, and in many parts innundated the country; consequently much sickness has generally prevailed. Although the Metropolis never suffers in the same degree as the country from this cause, yet many of the diseases most numerous in the Register are commonly supposed as arising from extraordinary humidity.

Affections of the *bronchiæ* and pulmonary organs have been very severe, and disorders of the hepatic system have been particularly so.

Rubeola and *Pertussis* have extended in the environs, and have been more fatal than in the town.

Scarlatina anginosa is most rife in Southwark and its vicinity; but does not appear to assume a dangerous character any where.

The cases of *Variola* have mostly been of a very unfavourable description.

Apoplexia and the varieties of *Paralysis* have been peculiarly fatal.

In one of the cases of *Podagra*, the lancet was freely employed; and cooling lotions applied to the affected part with the best success; the body being at the same time kept freely open. In another, the symptoms were singularly excentric. The pain began in the heel, which it soon left, and attacked the head and chest; it then left the head and was confined to the chest, impeding respiration, exciting cough, and producing all the symptoms of pleuritis; but whilst still there, the right hand was also attacked, and exhibited all the appearance of a regular fit of inflammatory gout. In this attack the lancet and purgatives were also successfully employed.

One case of *Asthma* suddenly proved fatal by a violent attack of spasmodic dyspnœa; and another case, which ended in death, was accompanied by a severe hæmorrhage from the intestines.

A case of *Phthisis* was accompanied with paraphrenitis and diseased liver. Upon inspection, *post mortem*, the diaphragm was observed to be very much inflamed, and the lungs full of vomicæ and tubercles; and the liver was very much tuberculated.

Cases of *Asthenia* among those of the poorer class have been too many to be enumerated, accompanied with lowness, gastrodynia, and enterodynia; and in many cases, where potatoes have been almost the only food for a considerable time, a troublesome and obstinate diarrhœa occurred.

Among the *Morbi Infantiles* was a curious case of sympathy of all the flexor muscles of both arms and legs, with the gums in dentition. The infant was eighteen months old, and was cutting four molares; two in the upper and two in the under jaw. The contraction was so strong, that no ordinary power could extend the fingers and toes. The attack lasted twelve hours, during which the wrists and ankles were swollen. All the symptoms spontaneously and completely subsided by a free crucial division of the gums on the crown of each tooth.

The fatal case of *Pleurity* occurred in a man aged 23, during his approach to convalescence after an attack of measles. On the 1st of the month sixteen ounces of blood were abstracted, which, with the application of a blister and a strong cathartic, relieved the pain and difficulty of breathing; on the 2d it was necessary to take eighteen ounces more; on the 3d, twelve ounces; and on the 5th, a still larger quantity: from every bleeding he received much relief: reiterated doses of aperient and saline medicines were given. From this period he appeared to be getting better very rapidly, until the 12th, when he felt a sudden recurrence of his first attack; and although again bled, it had only the effect of temporarily relieving him; for in a few days he died.

Monthly Prices of SUBSTANCES *employed in* PHARMACY.

		S.	D.
Acaciæ Gummi elect.	lb.	5	0
Acidum Citricum - - -		28	0
—— Benzoicum -	unc.	6	8
—— Sulphuricum -	P. lb.	0	9
—— Muriaticum - - -		1	8
—— Nitricum - - -		4	0
—— Aceticum - -	unc.	3	0
Alcohol - - -	M. lb.	5	0
Æther sulphuricus - - -		10	6
—— rectificatus - - -		14	0
Aloes spicatæ extractum -	lb.	7	6
— vulgaris extractum - -		5	0
Alumen - - - -		0	6
Ammoniæ Murias - - -		2	0
—— Subcarbonas - -		4	0
Amygdalæ dulces - -		4	0
Ammoniacum (Gutt.) - - -		12	0
—— (Lump.) - -		5	0
Anthemidis Flores - - -		2	0
Antimonii oxydum - - -		7	0
—— sulphuretum - -		1	0
Antimonium Tartarizatum -		8	0
Arsenici Oxydum - - - -		3	6
Assafœtidæ Gummi-resina -	lb.	5	6
Aurantii Cortex - -		4	0
Argenti Nitras - -	unc.	6	0
Balsamum Peruvianum -	lb.	50	0
Balsamum Tolutanum - -		28	0
Benzoinum elect. - - -		12	0
Calamina præparata - - -		0	6
Calumbæ Radix - - - -		3	6
Cambogia - - -		10	0
Camphora - - - -		9	0
Canellæ Cortex - - -		5	0
Cardamomi Semina opt. -	lb.	10	6
Cascarillæ Cortex - - -		3	6
Castoreum - - -	unc.	5	0
Catechu Extractum - -	lb.	3	6
Cetaceum - - - -		3	6
Cera alba - - - -		3	9
—— flava - - - -		3	6
Cinchonæ cordifoliæ Cortex (yellow)		6	6
—— lancifoliæ Cortex (quilled)		10	0
—— oblongifoliæ Cortex (red)		18	0
Cinnamomi Cortex - - -		17	0
Coccus (Coccinella) -	unc.	3	6
Colocynthidis Pulpa - -	lb.	40	0
Copaiba - - - -		6	0
Colchici Radix - - -		3	6
Croci stigmata - - -	unc.	8	0
Cupri sulphas -	lb.	1	2
Cuprum ammoniatum -		10	6
Cuspariæ Cortex - -		4	0
Confectio aromatica - -		12	0

		S.	D.
Confectio Aurantiorum		3	6
—— Opii		6	6
—— Rosæ caninæ		2	0
—— Rosæ gallicæ		2	0
—— Sennæ		2	0
Emplastrum Lyttæ		7	0
—— Hydrargyri		3	0
Extractum Belladonnæ	unc.	2	0
—— Cinchonæ		3	0
—— Cinchonæ resinosum		5	0
—— Colocynthidis		7	0
—— Colocynthidis comp.		2	6
—— Conii		0	9
—— Elaterii		36	0
—— Gentianæ		0	6
—— Glycyrrhizæ	lb.	5	0
—— Hæmatoxyli	nc.	0	9
—— Humuli		0	9
—— Hyoscami	unc.	1	6
—— Jalapæ - 2s. 6d.	Res.	4	0
—— Opii		3	6
—— Papaveris		1	0
—— Rhæi		2	6
—— Sarsaparillæ		1	6
—— Taraxaci		0	9
Ferri subcarbonas	lb.	4	0
— sulphas		2	0
Ferrum ammoniatum		6	0
—— tartarizatum		6	0
Galbani Gummi-resina.		12	0
Gentianæ Radix elect		1	6
Guaiaci resina		7	6
Hydrargyrum purificatum		6	0
—— præcipitatum album		9	0
—— cum creta		6	6
Hydrargyri Oxymurias	unc.	0	8
—— Submurias		0	9
—— Nitrico-Oxydum		0	8
—— Oxydum Cinereum		1	6
—— Oxydum rubrum		6	0
—— Sulphuretum nigrum		0	4
—— —— rubrum		0	9
Hellebori nigri Radix	lb.	3	6
Ipecacuanhæ Radix		16	0
—— Pulvis		18	0
Jalapæ Radix		6	0
—— Pulvis		6	9
Kino		12	0
Liquor Plumbi subacetatis	M. lb.	1	8
— Ammoniæ		3	6
— Potassæ		1	6
Linimentum Camphoræ comp.		5	6
—— saponis comp.		4	6
Lichen	lb.	1	6
Lyttæ		16	0
Magnesia		10	6
Magnesiæ Carbonas		4	0
—— Sulphas, opt.		0	10
Manna optima		6	0
— communis		3	6
Moschus pod, (30s.)	in gr. unc.	48	0
Mastiche	lb.	7	0
Myristicæ Nuclei		18	0
Myrrha elect.		7	0
Olibanum		4	6
Opium (Turkey)		34	0
Opium (East India)			
Oleum Amygdalarum	lb.	3	6
— Anisi	unc.	3	0
— Anthemidis		6	6
— Cassiæ		8	0
— Caryophilli		6	6
— Carui		1	6
— Juniperi Ang.		5	0
— Lavandulæ		5	0
— Menthæ piperitæ	unc.	4	0
— Menthæ viridis Ang.		4	6
— Pimentæ	unc.	6	0
— Ricini optim.	(per bottle)	10	6

		S.	D.
Oleum Rosmarini	unc.	0	9
— Succini 2s. 6d. ——	rect.	5	0
— Sulphuratum	P. lb.	1	6
— Terebinthinæ		1	4
— — rectificatum		2	6
Olivæ Oleum	cong.	18	0
— Oleum secundum		10	0
Papaveris Capsulæ	(per 100)	3	6
Plumbi subcarbonas	lb.	0	8
— Superacetas		2	6
— Oxydum semi-vitreum		0	9
Potassa Fusa	unc.	1	4
— cum Calce		0	6
Potassæ Nitras	lb.	1	0
— Acetas		10	6
— Carbonas		4	6
— Supercarbonas		1	6
— Sulphas		1	4
— Sulphuretum		2	6
— Supersulphas		1	0
— Tartras		4	0
— Supertartras		1	4
Pilulæ Hydrargyri	unc.	0	9
Pulvis Antimonialis		0	9
— Contrayervæ comp.		0	6
— Tragacanthæ comp.		0	6
Resina Flava	lb.	0	4
Rhæi Radix (Russia)		30	0
—— (East India) opt.		12	0
Rosæ petala		12	0
Sapo (Spanish)		3	0
Sarsaparillæ Radix (Lisbon)		8	0
Scammoneæ Gummi-Resina	unc	3	9
Scillæ Radix siccat, opt.	lb.	5	0
Senegæ Radix		4	6
Sennæ Folia		6	6
Serpentariæ Radix		8	6
Simaroubæ Cortex		6	0
Sodæ subboras		3	6
— Sulphas		0	6
— Carbonas		6	6
— Subcarbonas		2	0
— — exsiccata		4	6
Soda tartarizata		2	6
Spongia usta		26	0
Spiritus Ammoniæ	M. lb.	5	0
— —— aromaticus		5	6
— —— fœtidus		5	0
— —— succinatus		5	6
— Cinnamomi		5	0
— Lavendulæ		5	0
— Myristicæ		3	6
— Pimentæ		3	6
— Rosmarini		4	0
— Ætheris Aromaticus		7	6
— — Nitrici		5	0
— — Sulphurici		7	0
— — Compositus		7	6
— Vini rectificatus	cong.	27	6
Syrupus Papaveris	lb.	2	0
Sulphur		0	9
— Sublimatum		1	0
— Lotum		1	4
— Præcipitatum		4	0
Tamarindi Pulpa opt.		2	0
Terebinthina Vulgaris		0	10
—— Canadensis		8	6
—— Chia		12	0
Tinct. Ferri muriatis		5	6
Tragacantha Gummi, elect.		7	0
Valerianæ Radix		1	8
Veratri Radix		2	6
Unguentum Hydrargyri fortius		5	6
—— —— Nitratis		2	8
—— —— Nitrico-oxydi		3	0
Uvæ Ursi Folia elect.		5	0
Zinci Oxydum		7	0
— Sulphas purif.		3	0
Zingiberis Radix opt.		5	6

Prices of New Phials per Gross.——8 oz. 70s.—6 oz. 58s.—4 oz. 47s.—3 oz. 45s.—2 oz. and 1½ oz. 36s.—1 oz. 30s.—half oz. 24s.

Prices of second-hand Phials cleaned, and sorted.——8 oz. 46s.—6 oz. 42s.—4. oz. 36s. 3 oz. 30s.—2 oz. and all below this size, 25s.

LITERARY NOTICES.

Mr. Copland Hutchinson will shortly publish "Some Further Observations on the Subject of the Proper Period for Amputating in Gun-shot Wounds, accompanied by the Official Reports of the Surgeons employed in His Majesty's Ships and Vessels at the late Battle before Algiers."

Speedily will be published, an Inquiry into the Effects of Spirituous Liquors upon the Physical and Moral Faculties of Man, and their Influence upon the Happiness of Society.

M. Richerand is preparing for Publication a History of Surgery in France from the Abolition of the Royal Academy of Surgery to the present period,

A Translation of the Work of Professor Wiedman on Necrosis is preparing for the press by Robert Knox, M.D.

Mr. Hennen, Deputy Inspector of Hospitals, has a work on Military Surgery, illustrated by numerous Cases, in an advanced state of preparation for the press.

MONTHLY CATALOGUE OF BOOKS.

Practical Observations in Surgery and Morbid Anatomy, with Cases, Dissections, and Engravings. By John Howship, Member of the Royal College of Surgeons in London, &c. 8vo.

Practical Rules for the Management and Medical Treatment of Negro Slaves in the Sugar Colonies. By a Professional Planter. 8vo.

Suggestions for the Prevention and Mitigation of Epidemic and Pestilential Diseases. By Charles Maclean, M.D. 8vo.

Cheselden's Plates of the Human Body, correctly reduced from the original copy. 12mo.

NOTICES TO CORRESPONDENTS.

The Communications of Mr. Johnson, Mr. Syer, Mr. Parsons, Mr. Hudson, Mr. T—ke, *&c. are received.*

The letter of a Young but Constant Reader, *by some omission, did not reach us till after the last Number was published. We are always ready to pay attention to those who solicit advice from us; and especially when it is from the laudable desire of improvement. If our Correspondent will refer to the Number of the* REPOSITORY *for January* 1816, *he will there find, that the* EDITORS *drew up a Course of Study for Young Men to pursue, from their first initiation into the Profession to the final completion of their Medical Education; nor have they any thing to add to the plan then recommended.*

Communications intended for insertion in the subsequent Number should be sent before the 12th of the month; and should be addressed (free of expense) to Mr. Shury, *Printer, 7, Berwick Street, Soho; by whom Books for the Review Department, Articles of Intelligence, &c. &c. will also be received.*

THE
LONDON MEDICAL
REPOSITORY.

No. 39. MARCH 1, 1817. Vol. VII.

PART I.

ORIGINAL COMMUNICATIONS.

I.

TENTAMEN NOSOLOGICUM.

By Whitlock Nicholl, M.D. of Ludlow, Shropshire, Member of the Royal College of Physicians in London*.

SERIES *CLASSIUM ET ORDINUM.*

CLASSIS I.

FEBRES.

Ordo I. Idiopathicæ.
II. Symptomaticæ.
III. Hæmorrhagicæ.

CLASSIS II.

NEUROSES.

Ordo I. Comata.
II. Dyscinesiæ.
III. Dysæsthesiæ.
IV. Spasmi.
V. Odyniæ.
VI. Asphyxiæ.
VII. Vesaniæ.

CLASSIS III.

CACHEXIÆ.

Ordo I. Astheniæ.
II. Hydropicæ.
III. Pneumatoses.
IV. Catastasiæ.
V. Symptomaticæ.
VI. Catharses.
VII. Epischeses.
VIII. Cutaneæ.
IX. Ectopiæ.
X. Ossinæ.
XI. Vasales.

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* The Author is sensible that this is a very imperfect outline, and will be happy to receive any suggestion that may correct and improve it. The arrangement of *Febrile* diseases is similar in many respects to that proposed by Dr. Wilson Philip: he therefore conceives it is recommended by high authority.

CLASSIS I.

FEBRES. (a)

Calor auctus: cutis plerumque arida: sitis: pulsus frequens aut fortis.

ORDO I.—IDIOPATHICÆ.

Febres non a morbo præcedente ortæ.

SECT. I.—INTERMITTENTES. (b)

Febres interpositâ apyrexiâ periodicé revertentes.

GENUS I.—QUOTIDIANA.

Febris Intermittens quotidie revertens.

Species 1. Paroxysmis quovis die similibus.
(c) 2. Paroxysmis inæqualibus alternis diebus similibus. [*Tertiana duplex.*]
(c) 3. Paroxysmis quarto quo que die similibus. [*Quartana triplex.*]
(c) 4. Paroxysmis altero quo que die binis. [*Tertiana triplex.*]
Variant species singulæ paroxysmorum duratione.

GENUS II.—TERTIANA.

Febris Intermittens altero quo que die revertens.

Sp. 1. Paroxysmo eodem die unico tantum.
Sp. 2. Paroxysmis eodem die binis.
Variant species paroxysmorum duratione.

GENUS III.—QUARTANA.

Febris Intermittens quarto quo que die revertens.

Sp. 1. Paroxysmo eodem die unico tantum.
Sp. 2. Paroxysmis eodem die binis.
Sp. 3. Paroxysmis eodem die tribus.
Variant species paroxysmorum duratione.

(a) Morbos, quorum Febris aut pars magna aut comes est, omnes in Febrium classem recepi. Febris paucis quidem verbis characterem dedi. Quod si aliorum more fusius symptomata descripserim plures Febris notas memorarem quam quæ in singulis ejus generibus conspiciuntur.

(b) Intermittentium signa notans Cullenus characterem ad calcem et hunc addit "paroxysmo quovis die unico tantum;" postea verò Tertianam et Quartanam pingens species dat paroxysmos duos vel etiam tres eodem die exhibentes. Annon satius esset verba hæc omittere quam dicta abnuere?

(c) Tertianam duplicem, T. triplicem, et Quartanam triplicem quippe quæ omnes quotidie paroxysmos præbent in Quotidianarum genus retuli.

SECT. II.—CONTINUÆ.

Febres sine apyrexiâ periodicâ at cum remissionibus plerumque incertis: per dies aliquot durantes.

GENUS I.—SYNOCHA.

Febris cum arteriarum motu duro, valido, plerumque frequenti: urina rubra: sensorii functiones parum turbatæ.

Variat causâ.

GENUS II.—TYPHUS.

Febris cum arteriarum motu languido, plerumque frequenti: vires multum imminutæ: sensorii functiones turbatæ.

Variat symptomatum vi et cursu.

GENUS III.—SYNOCHUS*.

Febris initio synocham referens at plerumque cum capitis aut artuum dolore: progressu et versus finem typhi formam induens.

Variat symptomatum vi et cursu.

SECT. III.—EXANTHEMATICÆ.

Febres cum eruptione cutaneâ.

GENUS I.—VARIOLA.

Febris cum vomitu et ex epigastrio presso dolore, et sæpe convulsionibus. Tertio die incipit et quinto finitur eruptio papularum phlegmonodearum, quæ spatio octo dierum in suppurationem et in crustas demum abeunt, sæpe cicatrices depressas, sive foveolas in cute relinquentes.

Sp. 1. V. Discreta: pustulis paucis discretis, circumscriptione circularibus turgidis: febre eruptione facta protinus cessante.

Sp. 2. V. Confluens: pustulis numerosis, confluentibus, circumscriptione irregularibus parum elevatis: febre post eruptionem perstante.

GENUS II.—VARICELLA.

Post brevem febriculam vesiculæ erumpentes vix in pustulas abeuntes: post paucos dies in sqamulas atras nullâ plerumque foveolâ relicta desinentes.

Variat vesicularum formâ.

GENUS III.—VACCINIA.

Morbus insitivus a vaccæ papillis derivatus: quarto plerumque die post virus sub cuticulâ insertum papula exigua cernitur, quæ sensim crescens in vesiculam albescentem, circumscriptione turgidam tollitur: hæc areolâ fulgente, rubrâ, postea circundata cum cutis vicinae tumore, rubedine, et crassitie, in crustam tandem desinit.

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* Hecticam in febrium symptomaticarum ordine collocavi.

GENUS IV.—RUBEOLA.

Febris cum sternutatione, epiphorâ et tussi siccâ: quarto die vel paulo serius erumpunt papulae exiguae confertae, gyratae, vix eminentes, post tres dies in squamulas furfuraceas minimas abeuntes.

Variat tum symptomatum vi, tum febris et eruptionis naturâ.

GENUS V.—SCARLATINA.

Febris: quarto die in cute passim rubor floridus maculis amplis tandem coalescentibus: facies aliquantum tumens: post tres dies in squamulas furfuraceas desinit eruptio superveniente dein saepe anasarcâ. *a.* cum faucium inflammatione.

GENUS VI.—ROSEOLA.

Febris aut potius febricula: in cute exanthema coloris rosacei, vix eminens, maculis amplis, subinde erumpens; et saepe cum diarrhoeâ, dyspepsiâ, vel capitis aut artuum dolore alternans.

GENUS VII.—ERYSIPELAS*.

Post febrem cutis erythema aut simplex aut papulosum in vesiculas abeuns.

Variat symptomatum vi et febris typo.

GENUS VIII.—URTICARIA.

Febris: cutis maculae urticarum puncturas referentes.

Sp. 1. U. Idiopathica sine causâ manifestâ.

Sp. 2. U. Symptomatica ab ingestis pravis.

GENUS IX.—LICHEN.

Post febrem aut febriculam papulae erumpentes in squamulas furfuraceas abeuntes: prurigo.

ORDO II.—SYMPTOMATICÆ.

Febres, a morbo quovis aut praecedente aut comitante, ortae.

SECT. I.—INFLAMMATORIÆ.

Febres cum partis aut externae aut internae inflammatione.

GENUS I.—PHLEGMONIA.

Febris synochalis a partis externae inflammatione phlegmonicâ orta.

GENUS II.—ERYTHEMASIA.

Febris plerumque typhodes a partis externae erythemate orta.

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* Culleni exemplo voce hac utor ad febrem illam designandam quam Exanthema quasi symptoma sibi proprium sequitur, ubi autem Exanthema morbus primò Localis est at febrem postea accendit, febrem hanc symptomaticam Erythemasiam voco.

GENUS III.—[illegible]

Febris vehemens: dolor capitis: [illegible] lucis et soni [illegible].

Sp. 1. P. Acuta. [illegible]

Sp. 2. P. Chronica. [illegible]

GENUS IV.—CYNANCHE.

Faucium inflammatio cum febre.

Sp. 1. C. Simplex: fauces et tonsillas aggrediens: febre [illegible].

Sp. 2. C. Catarrhalis: fauces bronchia et nares aggrediens, [illegible] ac febre [illegible]. [illegible]

Sp. 3. C. Aphthosa: tonsillas et fauces aggrediens rubore et aphthis [illegible].
[*Ap*[illegible] BATEMAN.]

Sp. 4. C. Maligna: fauces et tonsillas aggrediens: febre typhode et sæpe cum cutis exanthemate.

Sp. 5. C. Laryngea: laryngem aggrediens: cum *dyspnœâ et dysphagiâ* ac febre synochali.

Sp. 6. C. Trachealis: tracheam aggrediens cum dyspnœâ ac voce stridulâ raucâ tussi clangosâ, siccâ, *deglutitione parum difficili,* et febre synochali.

Sp. 7. C. Pharyngea: pharyngem aggrediens: cum dysphagiâ maximâ at *sine dyspnœâ.*

Sp. 8. C. Parotidœa: cum parotidum et glandularum maxillarum inflammatione at tumore: *sine dyspnœâ aut dysphagiâ,* et cum febre synochali.

GENUS V.—PERTUSSIS.

Tracheæ et bronchiarum inflammatio cum febre, at hæ plerumque leves: tussis convulsiva, strangulans, cum inspiratione sonora iterata, vomitum sæpe ciens.

GENUS VI.—BRONCHITIS.

Bronchiarum inflammatio cum febre: pulsus durus; pectoris angustiæ: respiratio arcta crebra, difficilis, et [illegible], sæpe non nisi trunco corporis erecto exercenda: tussis [illegible] dolor thoracis obtusus in utrumque latus [illegible]

Sp. 1. B. acuta.

Sp. 1. B. asthenica: cum debilitate [illegible] frontis dolore.

[illegible]

GENUS VII.—PNEUMONIA.

Pulmonum inflammatio cum febre: pulsus non semper durus sed aliquando mollis: respiratio crebra dolorosa: faciei tumidæ color purpureus: tussis, inspirationem aliquanto longiorem sequens.

GENUS VIII.—PLEURITIS.

Pleuræ inflammatio cum febre. Pulsus durus: dolor lateris pungens sub inspirationem auctus: decubitus in latus molestus: tussis, si adsit, dolentissima.

GENUS IX.—CARDITIS.

Cordis inflammatio cum febre: dolor in cordis situ: anxietas; respiratio crebra difficilis; tussis sicca: pulsus oppressus inæqualis: vomitus; palpitatio: syncope.

Variat sede.

GENUS X.—PERITONITIS.

Peritonei inflammatio cum febre: dolor abdominis corpore erecto aut pressu auctus: absque propriis aliorum viscerum abdominalium inflammationis signis.

Variat sede et gradu.

*GENUS XI.—GASTRITIS**.

Ventriculi inflammatio cum febre: anxietas; ardor in ventriculi sede et dolor ingestis quibuslibet auctus: vomendi cupiditas et ingesta protinus rejecta: singultus.

Sp. 1. G. Phlegmonica: dolore acuto febre vehementi: ac pulsu duro et parvo.

Variat causâ et symptomatum vi.

Sp. 2. G. Erythematica: dolore et febre lenioribus: pulsu languido ac frequente: faucium interdum rubore.

Variat causâ et cursu.

GENUS XII.—ENTERITIS.

Intestinorum inflammatio cum febre: dolor abdominis pungens, torquens; vomitus: alvus pertinaciter adstricta.

Sp. 1. E. Phlegmonica: dolore acuto febre vehementi: pulsu duro sed arcto.

Variat causâ.

Sp. 2. E. Erythematica: dolore et febre lenioribus: pulsu languido et frequenti.

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* Quamvis Diaphragma inflammatione sibi propriâ rarò aut nunquam forsan afficiatur, singultus tamen hujus partis inflammationi aut irritationi symptoma proprium esse opinor: et quamvis in vicinarum partium inflammatione haud rarò singultus adsit, verisimile est illum a Diaphragmatis inflammatione oriri quæ viscera septo transverso aut incumbentia aut proxima aggrediens ad septum ipsum cursu tandem serpit.

GENUS XIII.—HEPATITIS.

Jecinoris inflammatio cum febre.

Sp. 1. H. Acuta: febris synochalis; hypochondrii dextri tensio et dolor pungens aut obtusus: dolor ad claviculam et summum humeri dextri: decubitus in sinistrum latus difficilis: dyspnœa: vomitus forsan et singultus.

Sp. 2. H. Chronica: febricula levis: plenitudinis in hypochondrio dextro sensus: decubitus in sinistrum latus difficilis, doloris, plenitudinis ac ponderis sensum in latere dextro gignens: hypochondrii dextri dolor obtusus pressu aut inspiratione longa auctus: alvus plerumque adstricta: dyspepsia: animi dejectio et sæpe solicitudo.

GENUS XIV.—SPLENITIS.

Splenis inflammatio cum febre: hypochondrii sinistri tensio, plenitudo, et dolor, pressu auctus.

GENUS XV.—NEPHRITIS.

Renis inflammatio cum febre: dolor in renis situ, sæpe ureteris iter sequens: mictio frequens: vomitus: cruris stupor: testiculi ejusdem lateris retractio et dolor.

Sp. 1. Idiopathica sine causâ manifesta.

Sp. 2. Symptomatica.

A calculo aut a morbo quovis precedente aut comitante.

GENUS XVI.—CYSTITIS.

Vesicæ inflammatio cum febre: hypogastrii tumor et dolor: et dolor pressu auctus: mingendi frequens desiderium: mictio dolorifica aut impedita: vomitus et tenesmus.

Variat causâ.

GENUS XVII.—HYSTERITIS.

Uteri inflammatio, cum febre: hypogastrii calor, tensio, tumor, et dolor: os uteri tactu dolens: vomitus: musculorum nonnunquam motus involuntarii.

Variat causâ.

GENUS XVIII.—RHEUMATISMUS.

Febris: dolor, motu et pressu auctus articulos majores præcipue infestans, sedem sæpe mutans: partis dolentis rubor levis ac tumor.

Variat sede. In morbum chronicum plerumque desinit.

GENUS XIX.—ARTHRITIS.

Febris: dolor articulos maximi infestans et eos aut pedum aut manuum præcipue, plerumque pedis pollicem aggrediens, tactu levissimo vehementer auctus; per intervalla incerta revertens, et sæpe cum ventriculi aut aliarum partium internarum affectionibus alternans.

Variat sede, cursu, duratione, et symptomatum vi.

SECT. II.—IRRITATIVÆ.

Febres symptomaticæ ab irritamento quovis corpus obsidente ortæ.

GENUS I.—DYSENTERIA.

Febris cum habitu intestinorum pravo.

Sp. 1. D. Vera: cum dejectionibus frequentibus, mucosis vel sanguinolentis, insolitis, retentis forsan fæcibus alvinis, et cum torminibus, tenesmo ac debilitate. Cum morbis hepatis, splenis, pancreatis et glandularum mesentericarum sæpe conjuncta.

Sp. 2. D. Helminthica: appetitus sæpe solito major: nasi pruritus: vomitus: ventriculi dolor: tussicula sicca: in somno stridor dentium; spiritus fœtidus: dejectiones mucosæ.

A vermibus intestinos occupantibus orta.

GENUS II.—HECTICA.

Febris quotidiana accessionibus et remissionibus variis: sudoribus nocturnis: urina sedimentum furfuraceo-lateritium plerumque deponente: debilitate et marcore.

Sp. 1. H. Phithsica: tussi respiratione arctâ, brevi: doloribus pectoris vagis: et expectoratione plerumque purulentâ a pulmonum morbis orta.

[*Phthisis.*]

Sp. 2. H. Catarrhalis: tussi et expectoratione mucosâ aut puriformi: sine pectoris doloribus plerumque aut pulmonum constrictione, at respiratione sæpe difficili ob sputa tracheàm et bronchia implentia.

Sp. 3. H. Aphthosa: apthis os internum, linguæ margines, fauces et viam intestinalem totam occupantibus ac diarrhœâ.

[*Cachexia aphthosa.* LATHAM.]

Sp. 4. H. Mesenterica: abdominis tumore ac dolore obtuso, alvo aut adstrictà aut fæces fœtidas mucosas sive purulentas dejiciente: capitis dolore: artuum inferiorum marcore: et glandularum externarum forsan tumoribus scrofulosis.

Sp. 5. H. Cachectica: a corporis habitu pravo, morboso.

Sp. 6. H. Asthenica: a viribus corporis quassatis, succumbentibus.

ORDO III.—HÆMORRHAGICÆ[*].

Febres cum sanguinis absque vi externâ profusione.

GENUS I.—MYCTERRHAGIA.

Prægressis febre, capitis dolore vel gravitate, ac faciei rubore, sanguinis e naribus profusio.

GENUS II.—PNEUMONORRHAGIA.

Febris: genarum rubor: molestiæ aut caloris in pectore sensus: dyspnœa: titillatio faucium: tussis aut tussicula sanguinem *floridum* sæpe *spumosum* rejiciens. [*Hæmoptysis.*]

GENUS III.—GASTRORRHAGIA[†].

Prægressis febre, et doloris sensu in ventriculi regione, et forsan anxietate, sanguinis atri grumosi vomitus sine tussi. [*Hæmatemesis.*]

GENUS IV.—HYSTERRHAGIA[‡].

Prægressis febre et dorsi lumborum ac hypogastrii doloribus, sanguinis ex utero fluxus. [*Menorrhagia.*]

GENUS V.—PROCTORRHAGIA.

Prægressis febre, capitis dolore aut vertigine, lumborum et ani doloribus, ani quo que calore ac sæpe tumore, ex ano sanguinis stillatio. [*Hæmorrhois.*]

GENUS VI.—PORPHYRRHAGIA.

Febris: mens varia et anxia: debilitas summa: maculæ cutis purpureæ: vice excretionum naturalium aut excretiones sanguineæ aut sanguinis profusio.

[*Purpura hæmorrhagica.*]

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[*] Phthisin inter Hæmorrhagias locum tenere minime decet quamvis enim vasis in pulmone rupti sit ulcus et hinc Phthisis sequelâ, multo sæpius sine arteriâ ruptâ Phthisis semina concipiuntur. Pulmones ulcere aggressi sanguinem ex arteriis forte erosis sæpe effundunt: non est autemtalis sanguinis profusio morbi causa sed sequela tantum.

[†] Morbum quem sæpius vidi hic descripsi; haud tamen negarem sanguinis e ventriculo fluxum multô sæpius sine febre existere. Eadem quæ notavi signa et ex intestinis hæmorrhagiam præcedunt, et facile intelligi potest quod sanguis in canalem effusus quà maxime patet via sit erupturus.

[‡] Cum sit menstruorum secretio non sanguinis sed secretionis rubræ uteri idoneæ fluxus, si præter modum sine grumis effluat inter Hæmorrhagias minime ponenda est. Cur autem inter Hæmorrhagias Leucorrhœa locum teneat haud prorsus video; sanguinis fluxus immodicus debilitatis causa est, debilitatas Leucorrheam sæpe gignit et hoc modo inter Leucorrhœæ causas remotas Hæmorrhagia locum obtinet.

CLASSIS II.

NEUROSES[*].

Morbi a systemate Nervoso male se habente orti, sine febre.

ORDO I.—COMATA.

Sensûs et motûs suspensio universalis.

GENUS I.—HÆMAPLEXIA.

Sopor: stertor: stupor: vasorum capitis plethora: plethoræ universalis forsan signa: motus voluntarii fere omnes suspensi aut imminuti. [*Apoplexia Sanguinea.*]

GENUS II.—HYDROPLEXIA.

Eadem quæ in Hæmaplexia signa præter plethoram localem et universalem.

Sp. 1. H. Simplex: hydropis plerumque in corpore aut anasarcæ signis aut prægressis aut comitantibus. [*Apoplexia serosa.*]

Sp. 2. H. symptomatica: phrenitis chronicæ sequela. [*Apoplexia Hydrocephalica.*]

GENUS III.—PSEUDOTHANASIA.

Vitæ quasi suspensio, per plures dies forsan durans absque causâ ullâ externâ aut internâ manifestâ. [*Ecstasis.*]

ORDO II.—DYSCINESIÆ.

Motus voluntarii imminuti.

GENUS I.—PARALYSIS[†].

Musculorum voluntariorum nonnullorum vis et motus imminuti.

Sp. 1. P. Idiopathica: non a morbo præcedente orta.

a. a frigore.
b. a veneno.

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[*] Quamvis hæc febrium hæmorrhagicarum genera enumerari fateri oportet sanguinis fluxum a quavis corporis parte prodeuntem ab eâdem causâ sæpe pendere. Cum enim supprimitur secretio quædam naturalis aut periodica, ut sit menstruorum fluxus sive hæmorrhœa, quædam solita, aut cum ab aliâ quavis causâ sanguine præter modum nimiâ opprimitur corpus, vasa quà sint tenuiora cedunt, sanguis effunditur, et hoc modo Plethora morbum quem gignit, vi suâ mechanicâ tollit.

[†] Paralyseos causa sæpissime latet. Sæpius autem Apoplexiâ ictus ad se paulatim redit æger, et a morbo paralyticus evadit. Morbum qualis cunque sit ab Apoplexiâ separavi.

Sp. 2. P. Symptomatica: morbum alium aut læsionem sequens.
  1. P. apoplectica *a.* ab Hæmaplexiâ.
    b. ab Hydroplexiâ.
  2. P. a cerebri aut medullæ spinalis morbo.
  3. P. traumatica a vulnere.
  4. P. a vertebrarum luxatione.

Sp. 3. P. Tremens, musculorum nonnullorum voluntariorum motus incerti, trementes, cum movendi facultate concurrentes, absque voluntate sæpe et crebró repetiti.

GENUS II.—INCUBUS[*].

Morbus in somno aggrediens, a somnio molesto ad motum animum excitante ortus: ponderis incumbentis et pectus fortiter comprimentis sensu oppressus frustra sese movere conatur æger, expergiscit tandem ac brevi exsiliens morbum solvit.
[*Oneirodynia gravans.*]

ORDO III.—DYSÆSTHESIÆ.

Sensus imminuti, deleti, depravati aut impedeti.

GENUS I.—DYSOPIA.

Visus vitiosus.

Sp. 1. D. Hemarolopica.
D. Nyctalopica.
D. Paralytica. Variat causâ. [*Amaurosis.*]
D. Cataractica.
  1. a lentis membranæ opacitate.
  2. a lentis ipsius opacitate.
    Variat lentis duritie.
D. Caliginosa: a corneæ lucidæ vitiis.
D. Pupillaris: a pupillâ concretâ.

GENUS II.—ANOSMIA.

Olfactus imminutus vel abolitus.
Variat causâ.

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[*] Cum sit Incubus morbus motûs facultatem imminuens morbo ad ambulationem excitanti male a Culleno jungitur. An hic recte ponatur judicent alii. Inter Asphyxias minime locum meruit, cordis enim motum non sistit sed auget. Vix inter vesanias sedem obtinet, quanquam enim hallucinationi jungitur, non a mentis hallucinatione nascitur motûs impotentia sed a musculis animi imperium abnuentibus.

ORDO VI.—ASPHYXIÆ.

Motuum vitalium suspensio sine sopore.

GENUS I.—SYNCOPE.

Motûs cordis suspensio cum animi deliquio.

Variat causâ.

GENUS II.—THORACANCHE.

Pectoris quasi contractio arcta et angor: anxietas: dolor sternum occupans, trans pectus ad medium brachium tendens: mótus cordis debilis et varius: morbus subito aut in somno aut in ambulatione oriens: per tempus incertum durans et plerumque subito evanescens.

[*Angina pectoris.* HEBERDEN.]
[*Syncope anginosa.* PARRY.]

ORDO VII.—VESANIÆ.

Mentis judicantis functiones læsæ sine febre.

GENUS I.—AMENTIA.

Mentis imbecillitas.

Sp. 1. A. Congenita.

Sp. 2. A. Acquisita.

a. Ingravescente ætate oriens.

b. a causis accidentalibus.

GENUS II.—MELANCHOLIA.

Hallucinatio cum tristitia et metu.

Sp. 1. M. Idiopathica: variat modo et formâ.

a. Nostalgia.

Sp. 2. M. Symptomatica.

a. Hypochondriasis.

GENUS III.—MANIA.

Delirium longum universale.

Sp. 1. M. Idiopathica.

Sp. 2. M. Symptomatica.

GENUS IV.—APHRODIASIS.

Veneris effræna cupiditas.

Virorum.
[*Satyriasis.*]
Fœminarum.
[*Nymphomania.*]

GENUS V.—HYPNAGRYPNIA.

In somno ambulatio et actiones variæ et forsan colloquium.
[*Oneirodynia activa.*]

CLASSIS III.

CACHEXIÆ.

Totius vel partis corporis habitus depravatus aut læsus, sine febre aut neurosi.

ORDO I.—ASTHENIÆ.

Corpus debilitatum muneribus suis ægre fungens.

GENUS I.—DYSPEPSIA.

Cibi digestio prava. Symptomata sunt: anorexia, nausea, inflatio, ructus, ruminatio, vomitus, cardialgia, gastrodynia, pyrosis, et alvus adstricta.

GENUS II.—CHLOROSIS.

Dyspepsia: palpitatio: capitis dolor: cutis pallor: color subter oculos atro-viridis: menstruorum suppressio.

GENUS III.—DIABETES.

Urinæ copia immodica: sitis: et sæpe fames: marcor.

Sp. 1. D. Mellitus: cum urinâ odoris et saporis saccharini.

Sp. 2. D. Insipidus cum urinâ non dulci.

GENUS IV.—LEUCORRHŒA.

E vagina excretio mucosa serosa; symptoma plerumque est.

GENUS V.—EPHIDROSIS.

Sudoris præter naturam evacuatio.

GENUS VI.—ATROPHIA.

Asthenia et marcor universales sine febre.

ORDO II.—HYDROPICÆ.

Morbi a fluido seroso effuso et in corporis parte retento orti.

GENUS I.—ANASARCA.

A fluido seroso membranam corporis cellularem occupante intumescentia. Variat causâ et sede.

GENUS II.—HYDROTHORAX.

Dyspnœa: urina parca: decubitus difficilis: subita ex somno cum palpitatione excitatio; et forsan anasarca.

GENUS III.—ASCITES.

Abdominis intumescentia, fluctuosa a fluido serosa cavum suum occupante.

GENUS IV.—OOCELE.

A fluido serosa ovarium occupante abdominis intumescentia latere alterutro incipiens, cum fluctuatione minus evidente.

[*Ascites saccatus.*]
[*Hydrops ovarii.*]

GENUS V.—HYDATIS.

Vesicula cuticularis fluida aqueo pleno, in corpore sita.

H. uteri. [*Hydrometra.*]

GENUS VI.—HYDROSCHION.

Fluidum serosum tunicam testis vaginalem distendens: tumor non dolens, initio mollis, fluctuans, pellucidus, ab imo plerumque crescens. [*Hydrocele.*]

ORDO III.—PNEUMATOSES.

Morbi ab aere in corporis parte retento ortæ.

GENUS I.—EMPHYSEMA.

Intumescentia diffusa, elastica, pressione crepitans, cuti concolor.

Sp. 1. E. Spontaneum, sine causâ manifestâ.

Sp. 2. E. Traumaticum, a vulnere thoracis.

GENUS II.—TYMPANITES.

Abdominis intumescentia tensa, elastica, sonora, ab aere retento.

ORDO IV.—CATASTASIÆ.

A morbo quodam specifico habitus depravatus.

GENUS I.—SCROFULA.

Habitus corporis languidus: glandularum conglobatarum tumor: labium superius tumidum: cutis levis.

Variat formâ et sede.

GENUS II.—RACHITIS.

Caput magnum anterius maxime tumens: costæ depressæ: vertebrarum columna in litteræ S figuram lateraliter torta: genicula tumida: abdomen tumidum: cætera marcescentia.

GENUS III.—SYPHILIS.

Morbus a concubitu fœdo ortus genitalia primo plerumque aggrediens, ulcuscula cava, crassa, cinerea gignens et inguinis glandulas tumore afficiens: tonsillas et cutem cursu infestans dolores postea et exostoses gignens.

GENUS IV.—SCORBUTUS.

Morbus a victu salito ex animalibus confecto, deficiente simul materiâ vegetabili recente, oriens: habitus corporis languidus: gingivæ flaccidæ facile sanguinem effundentes: in cute maculæ livescentes aut ulcera languida, livida, flaccida.

ORDO V.—SYMPTOMATICÆ.

Cachexiæ aliis morbis plicatæ.

GENUS I.—ICTERUS.

Cutis et oculorum flavedo, fæces albidæ: alvus adstricta urina obscure rubra: asthenia.

Sp. 1. I. Hepaticus: a morbo Hepatis ortus.

Sp. 2. I. Choledochus: ab impedimento quovis bilis ab hepate in duodenum cursum sistente.

Variat causa et symptomatum vi et naturâ.

ORDO VI.—CATHARSES.

E ventriculo aut ex intestinis evacuationes.

GENUS I.—DIARRHŒA.

Dejectiones alvi frequentes.

Variat causâ et materies dejectæ specie.

GENUS II.—CHOLERA.

Humoris biliosi vomitus et dejectio.

ORDO VII.—EPISCHESES.

SECRETIONUM SUPPRESSIONES.

GENUS I.—ASYALONIA.

Salivæ secretio solito parcior.

Symptoma plerumque est.

GENUS II.—ISCHOLIA.

Bilis secretio justo parcior.

I. Idiopathica: sine Hepatis morbo evidente.

I. Symptomatica: Hepatis morbi comes.

GENUS III.—AMENORRHŒA.

Menstruorum secretio suppressa.

1. A. simplex.
2. A. dolorosa. [*Dysmenorrhœa.*]

GENUS IV.—ISCHURIA.

Urinæ *secretio* imminuta aut suppressa.

Variat causâ.

GENUS V.—ASPERMIA.

Seminis secretio imminuta aut suppressa.

ORDO VIII.—CUTANEÆ.

Cutis deformitates.

SECT. I.—ERUPTIONES.

Papulæ, maculæ, vesicæ, pustulæ, aut squamæ cuticulam occupantes.

GENUS I.—PRURIGO.

Pruritus vehemens papularum exiguarum pallidarum eruptionem comitans.

GENUS II.—ECZEMA.

Vesiculæ exiguæ pellucidæ confertæ sine fundamentorum inflammatione.

GENUS III.—HERPES.

Vesiculæ discretæ cuti inflammatæ sedentes, calore urente aut dolore pungente, fluidum limpidum et postea opacum effundentes in crustam abeuntem, et nonnunquam ulcuscula gignentes.

GENUS IV.—POMPHOLYX.

Bullæ sine febre et sine inflammatione.

GENUS V.—SCABIES.

Vesiculæ, Pustulis commixtæ, cum pruritu vehementi perpetuo.

GENUS VI.—PITYRIASIS.

Maculæ inæquales squamis tenuioribus sæpe repetitis opertæ.

GENUS VII.—PSORIASIS.

Maculæ squamosæ rimosæ ambitu inæquali.

GENUS VIII.—IMPETIGO.

Pustulæ, exiguæ, scabiosæ, confluentes, humorem ichorosam effundentes in crustulam inæqualem abeuntem.

GENUS IX.—PORRIGO.

Pustulæ flavæ densæ humorem crassum effundentes et in crustulam tenuem subfuscam abeuntes.

GENUS X.—ECTHYMA.

Pustulæ magnæ, discretæ, paucæ, fundamentis duris, rubicundis, in crustam duram nigricantem abeuntes.

GENUS XI.—LEPRA.

Maculæ squamosæ magnitudinis variæ, ambitu orbiculari aut ovali, in crustas nonnunquam abeuntes.

GENUS XII.—ERYTHEMA.

Inflammatio cutis, colore rubicundo, pressione evanescente: ambitu inæquali, serpente; tumore vix evidente: in cuticulæ squamulas, in phlyctænas aut vesiculas abeunte: dolore urente.

SECT. II.—SCLEROSES.

CUTICULÆ CRASSITIES.

GENUS I.—VERRUCA.

Cuticulæ tuber eminens scabrum, rimosum.

GENUS II.—CLAVUS.

Cuticulæ crassities dura, lamellata.

GENUS III.—ICTHYOSIS.

Cuticulæ crassities dura, scabra, aut cornea, in squamulas ægre abeuns.

SECT. III.—TUMORES.

Intumescentia supra cutem eminens, solida, manens circumscripta.

GENUS I.—ACNE.

Tubercula dura, discreta, manentia, in suppurationem imperfectam ægre abeuntia.

GENUS II.—LUPUS.

Tuber diu nascens: parvum, durum, indolens: apicem suam habens squamulâ subfuscâ forsan opertam: faciem aggrediens: in ulcus inæquale tandem abeuns: a sede primariâ nonnunquam discedens ac aliâ parte erumpens: pede lento incedens et progressu suo partem quam occupat alte erodens.

GENUS III.—PHLEGMON.

Tumor rubore vivido: calore et dolore, aut discedens aut in suppurationem, ulcus, aut gangrænam abeuns.

Variat sede et modo.

GENUS IV.—SARCOMA.

Tumor carnis consistentiam habens.

Variat structurâ, duritie, sede, et naturâ.

GENUS V.—ENCYSTIS.

Tumor indolens, membranâ inclusus et materiam spissam continens.

Variat materiæ naturâ.

ORDO IX.—ECTOPIÆ.

Pars ex sua sede dimota.

GENUS I.—LUXATIO.

Os ex suâ in juncturis sede dimotum.

GENUS II.—HERNIA.

Viscus a cavo suo elapsum, cute adhuc tectum.

GENUS III.—PROLAPSUS.

Viscus a sede suâ dimotum et nudum in lucem veniens.

ORDO X.—OSSINÆ.

Ossium morbi.

GENUS I.—EXOSTOSIS

Tumor ossis solidus, ossi insidens.

GENUS II.—FRACTURA.

Os in fragmenta vi divisum.

ORDO XI.—VASALES.

Arteriarum aut venarum vitia.

GENUS I.—HÆMORRHŒA.

Sanguinis profusio sine febre.

Variat causâ: a profusionis sede nomen capit.

GENUS II.—ANEURISMA.

Arteriæ tumor; aut vasis dilatatio, aut saccus arteriæ insidens ab hujus tunicis ruptis ortus.

GENUS III.—VARIX.

Venæ dilatatio.

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Non ita nutritus fuge quo discedere gestis
Non erit emisso reditus tibi.——
Pudet—magis addere pondus. HORAT.

II.

Remarks on Dr. Johnson's Reply to Dr. Parry[*] *on the Circulation of the Blood.* By CHARLES HASTINGS, Edinburgh, late House-Surgeon to the Worcester Infirmary.

IN the prosecution of medical science, every individual who calls himself its votary, or has an interest in its welfare, however limited may be his means, however small his capacity, claims as a right the endeavour to forward its progress, or to guard it from error; with that view I beg leave to submit some remarks on Dr. Johnson's Reply to Dr. Parry on the Circulation of the Blood.

Dr. Johnson, quoting his own words, "happened to devise

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[*] Vide Dr. Johnson's Reply to Dr. Parry—*Medico-Chirurgical Journal,* No. 11.
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an apparatus*," from the use of which, by much ingenuity, he imitates the action of the heart; and endeavours to explain some of the most complicated functions of the circulating system. After having related two experiments which he made with this apparatus, he proceeds as follows:

"I trust, Sir, that I have now established the following points: 1st. The truth of your position, that in ordinary states of the system there is neither dilatation nor contraction in the arteries corresponding with the systole and diastole of the ventricles. 2nd. That during auricular contraction and ventricular dilatation, the blood is quiescent both in the arterial and venous systems. 3rd. That where there are dilatation and contraction corresponding with systole and diastole, the same movements, though in a less perceptible degree, must inevitably take place in the veins. 4th. That were the arteries to dilate during the systole of the ventricles, so as to keep up a diminished current through themselves and the capillaries during the diastole, then an accumulation would take place in the veins that would ultimately destroy the harmony between the two systems, and even the machine itself."

Now I am far from thinking that Dr. Johnson has established these points; and my reasons for not thinking so are founded on the two following principles:

First, an inanimate portion of a calf's ileum, however ingeniously put together, must be a very imperfect representation of the circulating vessels animated with life.

Second, the conclusions he draws in reasoning on this inanimate machine, are at variance with the present state of facts relating to the circulating system.

I shall first substantiate these two principles, and then proceed to make some general observations which the subject seems to demand.

First, an inanimate portion of a calf's ileum, however ingeniously put together, must be a very imperfect representation of the circulating vessels animated with life.

Let us then institute a comparison between this apparatus and the circulating system; the functions of which it is intended to explain. Let us begin with the heart, which is very far from being a representation of the natural one; both the auricle and ventricle being represented as of the same strength.

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* Of Dr. Johnson's ingenious paper we have taken some notice in our Retrospect of the *Progress of Medical Science*, (vide No. 37, for January last, p. 18); and, in a note, have given a description of his apparatus for illustrating the circulation of the blood; to which therefore we refer our readers as indispensably necessary for the elucidation of Mr. Hastings' remarks.—Editors.

What is the case in the animal?

The walls of the auricle are much thinner and much less muscular than the ventricle; anatomists, from the want of uniformity in the structure of the former cavity, have divided it into proper auricle and sinus venosus. The sinus venosus, in the language of Mr. J. Bell, is "just a dilatation of the venæ cavæ;" from experiments on living animals it is found that it is never empty, consequently the veins must be constantly pouring blood into it. The appendix, or proper auricle, is far more muscular.

When Dr. Johnson worked with his apparatus, he emptied the auricle at every contraction; it did not form a reservoir.

Next let us take the large arteries and compare their mechanism with the apparatus. In the animal system several trunks arise from one common one; in the apparatus, there is one trunk throughout; but let us compare the texture of the one with the texture of the other; how very faint is the resemblance of this ileum to the aorta of any animal; the former dilatible to a great extent, as was seen in Dr. Johnson's second experiment, when any cause momentarily resisted the progress of the fluid; the latter much less distensible, an elastic canal, particularly calculated to re-act on any distending force. "The aorta, at its root, is plainly muscular, surrounded in circles with great fibres, and having much muscular power*;" the knowledge of which fact has induced some authors to consider it as a second ventricle; and although throughout we do not find absolute muscular fibres, yet the middle coat of the arteries is composed of fibres of a red colour, running in a transverse direction, and forming a cylinder; the outer coat is cellular and of a highly elastic nature, which elasticity fits the arteries for dilatation and elongation. Is there any thing in Dr. Johnson's apparatus similar to this mechanism? Is there any thing by which we can for a moment suppose he can rightly represent the modus operandi of these vessels?

But if we pursue the comparison, and endeavour to discover any resemblance between the capillary system in the apparatus and the capillary system in the animal, we shall find they have no common attribute. The capillary system in Dr. Johnson's apparatus was formed by making some holes in a cork†, and putting this cork into the ileum, so that the fluid might pass through these holes. Does this give any notion of what takes place in the animal system? If we reflect for one moment on the complicated termination of the great arteries, we shall find it cannot be represented by any such simple apparatus as Dr. Johnson's. The great branches of the arteries I need not say, by repeated ramifications, having become extremely small, so small as to be named capillary, terminate in different ways; some become exhalents, some lead on into veins, some into absorbents, and others into secreting glands; and here a complete change is wrought on the blood; what remains, after having served the different purposes in the system, passes on in a completely altered state into the veins. I would then ask, what can be the resemblance between this complicated system of vessels and a pierced inanimate cork?

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* Vide *John Bell's Anatomy.* † Vide *the Second Experiment.*

Second, the conclusions Dr. Johnson draws in reasoning on this inanimate machine, are at variance with the present state of facts relating to the circulating system.

This I shall endeavour to support by making observations on each of his conclusions.

The first conclusion he comes to, is, that in ordinary states of the system there is neither dilatation nor contraction in the arteries corresponding with the systole and diastole of the ventricles.

In order that we may not be mistaken to what extent the general doctrine describes the arteries as concerned in the circulation, I will quote it as pointed out by Dr. Gregory*. "Juvat præterea actio arteriarum, non modo insigni vi resiliendi, sed vi propria musculosa se contrahentium: unda sanguinis e corde expulsa, sanguinem, qui jam in arteriis fuit, propellit, et simul, quoniam fluidi est quoquoversum premere, arteriam ipsam distendit. Hæc distentio pulsus est, quem digito percipimus. Arteriæ vero hoc modo distentæ ad contractionem cientur, non secus ac ipsum cor: earumque contractio tanta velocitate absolvitur, ut exiguum omnino distinguatur intervallum inter ictum cordis, vel quæ proxima est arteriæ carotidis, et pulsum in remotissima corporis parte."

The truth of the alternate contraction and dilatation may be inferred from the tortuosity which the arteries assume during the contraction of the ventricle: in viewing a pulsating artery, we must not suppose we shall see it alternately considerably smaller or larger, or considerably more or less full; all that is contended for, is, that when a volume of blood is sent out of the ventricle, it propels the blood already in the vessel; at the same time the force with which it is propelled, distends the artery; and this, by its elastic and contractile power, re-acts upon the blood and assists that impulse which was given to it by the ventricle: now that this is the true state of the case, there are many facts which strongly shew, some of which I will enumerate.

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* *Conspectus Medicinæ Theoreticæ*, p. 136, Sect. 424, ed. 5.

If the arteries are the inert tubes Dr. Johnson makes them out, how is it that, when from any cause the aorta becomes ossified and consequently less elastic, people are often affected with faintings and other symptoms denoting a defective circulation? If the arteries are perfectly inactive, a bony tube would answer as well as one, the peculiar property of which is elasticity.

How is it, if the arteries are inert tubes, that a limb is sometimes removed without any hæmorrhage, although many large vessels are cut through, and the circulation vigorous?

When a pulsating artery is cut through, we find by its contractile and elastic power, its calibre becomes considerably diminished; now this tendency to contraction must have been a power acting on the blood, and consequently must have assisted in forcing it forward.

It is frequently observed, that when, from wound, compound fracture, or other cause, a portion of an artery is laid bare, in the course of cure, large quantities of pus will occasionally accumulate in the cavity of the wound; and, at every pulsation of the artery, this body of pus would be put in motion: whence can this motion arise, but from the dilatation of the artery*?

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* Dr. Parry, in most of his experiments, describes a longitudinal movement and curvature of the carotid during the systole of the ventricle: it is most evident this can only arise from the lengthening of the artery, though to what extent is not very easily calculable: now this lengthening of the artery, as a cylinder, must increase its capacity.

The following calculation, though it cannot be exactly correct, because we do not know what quantity of blood a given portion of the aorta will contain, may yet serve to shew, on probable grounds, how much more blood the artery will be capable of containing during its longitudinal distension, by virtue of the contraction of the ventricle, even supposing that its calibre is not at all increased.

If we suppose that in an ordinary sized man the length of the aorta from its origin at the ventricle to its bifurcation, during the diastole of the ventricle, is three feet: if we call it a cylinder, which it nearly is, and allow that 40 barley-corns of this cylinder, during the diastole of the ventricle, will contain eight ounces of blood, then the three feet of artery, of the same dimensions, will contain 172·8 drachms; let us likewise assume, that during the ventricular systole, the artery is elongated a twentieth part, the calibre remaining the same, then, by the thirteenth problem of the eleventh book of Euclid, 40 barley-corns, 64 drachms — 42 barley-corns, 67·2 drachms. 67·2 drachms, therefore, is the quantity of blood; the 40 barley-corns

How will Dr. Johnson accommodate his view of the circulation to some of the lower order of animals, in which there is no heart; only blood-vessels? and how will he account for monsters arriving at the full period of utero-gestation without any heart, the circulation having been carried on by the blood-vessels, if he supposes the arteries are inactive in the circulation*?

I have lately been assisting my friend Dr. Leacock in some experiments he has made relating to transfusion; an account of which he has published in his Inaugural Thesis on Hæmorrhage. In order that the blood of one animal might be transfused into another, it was necessary to have a connecting medium between the artery and vein of the two animals. For this purpose the ureter of an ox was made use of by him, which possesses a considerable degree of elasticity, but very inferior to that of an artery. Even in this inanimate tube, as every volume of blood was propelled from the ventricles, a dilatation could be detected, and the pulsation of an artery felt. This tube was about three inches in length. If then, in it, a dilatation could be detected, what must it be in an artery, the elastic and contractile power of which is so much greater?

But the capillaries, as far as we have an opportunity of observing, have likewise an active agency in the circulation, and appear to possess more muscular power than the large arteries. On this point I shall have an opportunity of comparing the operations of Dr. Johnson's apparatus with the operations of Nature, and of shewing how very cautious we should be in admitting any apparatus, however ingeniously contrived, as a representation of the actions of life.

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in length of artery will contain, during its elongation by the ventricular systole: having got this, we easily find the increased capacity of the whole canal:
—For 64 drachms, 172·8 drachms; 67·2 drachms, 181·44 drachms. So that allowing that the aorta, from its origin to its bifurcation, contains twenty-one ounces of blood, during the diastole of the ventricle; during the systole, if it be only increased in length a twentieth part, i. e. 1½ inches, it will contain twenty-two ounces. It is generally supposed that two ounces of blood are propelled at each systole: now the aorta, by its lengthening, can receive an ounce additional; and when we consider that the same lengthening has taken place throughout all the arteries, the other ounce will be accommodated. This rough calculation shews, that, even if there be lengthening of the arteries only, the canal will be alternately increased and diminished in capacity.

* Vide a Case of Monstrosity, in the third volume of *Edinburgh Philosophical Transactions*, by Dr. Monro.

Dr. Johnson says, "so far, sir, the experiment confirms your position that the arteries have, in common circumstances, no dilatation nor contraction; but I think, sir, your sagacity has already discovered that your other position, namely, that it seems to you that the fluid must continue to move for a certain time after the power which impelled it has ceased to act, just as an arrow continues to fly after it has left the bow, is completely overturned. The experiment is open to you, sir; and you will find that the moment the ventricle ceased to contract, though pressed during the contraction with the force of a giant, that instant the column of fluid in the tube becomes as quiescent as if converted into ice."

Now that the blood in the capillaries does not cease to move for some time after the action of the heart has ceased, I have myself seen, in the capillaries of a frog's foot, subjected to microscopical observation; and to convince my readers of the truth of this fact, I have only to refer them to Dr. Philips' experiments, which have been published in the Transactions of the Royal Society. In his twelfth experiment* he says, "a ligature was thrown around all the vessels attached to the heart of a frog, and the heart was then cut out. On bringing the web of one of the hind legs into the field of the microscope, the circulation in it was found to be vigorous, and continued so for many minutes; at length gradually becoming more languid." The same has been observed by Haller and Spallanzani.

I would now ask which evidence is most entitled to confidence—Dr. Johnson's apparatus, or real blood-vessels? an imperfect copy, or the original?

Dr. Johnson's second conclusion, from the use of his apparatus, is, that "during auricular contraction and ventricular dilatation, the blood is quiescent, both in the arterial and venous systems."

Here Dr. Johnson, lest vulgar minds should not be disposed to receive the grand and important truth, that the blood rests in its progress through the body, exclaims "*omnia vincit veritas et prevalebit;*" and puts us in mind that even the immortal Harvey was disbelieved. He then goes on to assure us there is nothing unreasonable in the blood resting; for there is hardly any thing in nature which does not alternate: he instances the seasons; day and night; exercise and repose; eating and abstinence. Why should not the blood then have a little rest? Upon this reasoning I shall observe only that as it is a matter of fact, and cognizable to our senses: we must put aside all abstract reasoning, and consider, as a matter of fact, whether the circulating blood is or is not alternately in motion and at rest.

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* Vide Dr. Philips' additional Experiments on the Connection between the Nervous and Sanguiferous Systems.—vol. for 1815-16.

It is a little singular that, regarding a point on which Dr. Johnson might have satisfied himself by looking at the circulation in the living animal, he should still have preferred his apparatus; and that, after the numbers of people who have looked at the circulation, and have not found the blood to be alternately in motion and at rest, Dr. Johnson should invent an apparatus, by the help of which, and by the laws of hydrostatics, he proves it to be so.

I would only recommend him once to put a frog's foot, or the mesentery of a rabbit, into the field of a microscope, and I think he will see that his contrivance has misled him. He will see, in the experiments I propose, that the globules of blood pass, like so many "billiard balls," if he please, globule after globule through the small vessels: he will occasionally see the globules stop for an instant, when there is pressure on the leg of the animal, or from some other external cause, or when the circulation begins to grow weak: but he will not see alternate motion and rest.

Dr. Johnson's third conclusion is, "that where there is dilatation and contraction in the arteries corresponding with systole and diastole, the same movements, though in a less perceptible degree, must inevitably take place in the veins." To this conclusion he is led by his apparatus, which I have before shewn has no resemblance to the mechanism of minute vessels, where all the veins commence; consequently his conclusion is not tenable.

If we but reflect on the mechanism of the veins, we shall find a cause of their non-pulsation in the very manifold and minute ramifications of the vessels at which the venous system commences; while the arteries commence from one tube, which receives the blood with great force from the heart*. Again, as soon as we can detect the vessels as veins, their mechanism is much changed, which never seems to have entered Dr. Johnson's calculation: their coats are much thinner; they are valvulous, and much less elastic. The opinion generally received as to the circulatiou in them, is as follows:—" Videtur itaque sanguis in veniis moveri, partim vi a tergo, scilicet quam a corde et arteriis habuit; partim contractione musculorum vicinorum aut incumbentium, qui venas comprimant: hæ vero, præsertim in partibus musculoris, valvis instruuntur, quæ reditum sanguinis ad arterias prohibent, progressum ejus ad cor permittunt†."

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* This is well explained in Mr. C. Bell's *Dissections.*

† Gregory's *Conspectus,* p. 137, sect. 427. ed. 5.

Dr. Johnson's last conclusion is, "that were the arteries to dilate during the systole of the ventricles, so as to keep up a diminished current through themselves and the capillaries during the diastole, then an accumulation would take place in the veins that would ultimately destroy the harmony between the two systems, and even the machine itself."

This would doubtless be correct, did the auricle empty itself at every contraction; but we know, as a matter of fact, that it does not. Mr. Hunter, long ago, pointed out that the auricle is a reservoir for the blood: into this reservoir the two cavæ are constantly discharging their blood by a regular, steady influx; and not by any contraction, as is the case when the blood is forced into the ventricle. All this we actually see in the animal system when artificial respiration is kept up; and consequently is subject to no fallacy.

I shall now proceed to endeavour to shew how this conformation renders the quiescence of the blood unnecessary.

The blood, from the contraction of the ventricle and arteries as above pointed out, is forced into the veins, and is then pushed on, much more slowly, by the pressure of blood from behind, and the assistance of muscular action. From numerous branches it at length arrives, by the operation of the above force, into two large trunks called venæ cavæ; these trunks dilate into a large sinus, into which, from the continuance of the same pressure, much increased, the blood enters, and distends it: the ventricle now ceasing to contract, and consequently a cavity being formed, into which the blood may enter, the auricle contracts, and, with the assistance of the blood, which, from the regular action of the pressure from behind, is constantly being poured in from the veins, distends the ventricle without the necessity of being itself emptied: the ventricle now contracts and prevents more blood entering: therefore the steady influx of blood from the veins now distends the auricle to its former magnitude; and when the ventricle again forms a cavity for the admission of blood, it again contracts, and in the same manner as before, with the assistance of the blood from the veins, fills that cavity without being itself emptied. In this manner the blood from the veins is entering the auricle, in precisely similar quantities, both during the contraction and dilatation; and this prevents the necessity of quiescence in the blood, or pulsation in the veins*.

Dr. Johnson may, perhaps, deem this description "impossible and absurd;" but, supported by such authority, I shall venture to maintain its correctness, till controverted by stronger arguments than any that can arise from an experiment with any machine representing an artificial circulation.

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* The reader will find this view of the subject also in Mr. Charles Bell's *Dissections.*

Having now, I hope, substantiated the two principles on which I set out, it necessarily follows, as a corollary to them, that any of the deductions drawn from the use of this inanimate bladder are inadmissible. Indeed, I trust I have shewn that, in the present state of facts relating to the circulating system, the opinion generally received best accounts for the phenomena of the circulation.

Many of these phenomena are doubtless still veiled in obscurity, and are, perhaps, without the limits of man's finite apprehension: yet from the progress making in our knowledge of this and other parts of the animal œconomy, through the means of fair induction, accurate experiment, and sound reasoning, we may be led to hope that this knowledge will be extended.

In making these remarks, I beg I may not be understood as wishing to detract from Dr. Johnson's merit: although he has drawn his conclusions hastily, yet he has laboured in the cause of, what he supposes, truth, with great assiduity; and has given a plausibility to his conclusions by the ingenuity of his arguments. But poison is not the less dangerous by being made palatable: so a false theory, ingeniously supported, is likewise more dangerous, because it may obtain credit, to the great detriment of science.

III.

Observations on Cynanche Parotidea, or Mumps. By HENRY PARSONS, Surgeon-Apothecary, Sutton St. Mary's.

THIS disease generally running through its course in a few days, and the symptoms attending it being in the greater number of cases very slight, the disease itself being considered a trifling one, the attention of the medical practitioner is but seldom called to it. However, in some few instances, it has proved fatal; and in a great many more highly dangerous by phrenitic and other symptoms coming on. When such consequences occur, it of course excites the attention of those under whose care such cases fall; and a more than ordinary anxiety is felt, that a disease, commonly considered so trifling, should terminate in a favourable manner.

The disease being at this time epidemic here (January), I have had an opportunity of making a few observations upon it. It appears to attack most violently persons in the prime of life, of a robust and strong constitution, especially the labouring class of people, and males rather than females. They at first take but little notice of the swelling of the face and throat, complaining a little of a difficulty of swallowing; but upon being freely exposed to cold, or perhaps to wet, the parotid and submaxillary glands become very much enlarged, the swelling extends over the whole face, the eyes being almost closed, and over the fore part of the throat and thorax; the throat, in some cases, becomes level with the chin and face, and the countenance most hideously deformed; the whole swelling appears quite emphysematous, with very little or no discolouration of the cutis. As the tumour subsides, the testes in the male and the breasts in the female generally become enlarged and painful. The swelling of the testes sometimes extends up the spermatic cords, and produces great pain in the loins, and generally subsides gradually; leaving a little tenderness, and the patient in a few days is restored to health. But should the swelling of the face and throat be but slight and little noticed, and the patient during this time expose himself to cold or wet, he becomes attacked with cold shiverings, vomiting, pain in the joints, with lassitude and debility; great pain in the head and loins; pain in the eyes, with flushings of the face; spasms; involuntary motion of the head and legs; great oppression about the precordia; pulse very quick and soft; tongue furred; respiration little or not at all impeded; intestinal canal torpid; sediment in the urine; delirium, and prostration of strength: more or less of these symptoms attend the disease, and sometimes all of them. When they all do occur, the case becomes interesting.

It frequently happens that the practitioner is not called in till this period of the disease, when all the symptoms are present; for they quickly succeed each other, and most of them take place suddenly about the seventh day. The fever, which was at first inflammatory, then assumes a typhoid character.

Whether this form of the disease arises from idiosyncrasy, or is excited by cold, appears a matter of doubt, as a very great number of persons affected with it are both exposed to cold and wet, and this aggravated form of it does not take place in them. However, the less a person is exposed to cold, the quicker and milder the disease is in its course. This form of the disease is by no means rare. The pain in the loins appears evidently to arise in part from the extension of the inflammation up the spermatic cords, as the patient describes the pain as being within the pelvis, and there generally appears a fulness of the inguinal glands.

The treatment must be regulated by the symptoms: if the disease is seen at first, the antiphlogistic regimen, venesection, saline purgatives, should be prescribed, and cold must be avoided. If the disease be further advanced, bleeding cannot be so safely employed, but blisters, vomiting, cathartics, antimonials, &c. When the disease has gone on for a great length of time, stimulants may be given. Should the fever come on upon the recession of the swelling of the testes, fomentations should be applied to the scrotum. Opium appears to be seldom useful in the first stages of this epidemic.

IV.

A Case of Hydrocephalus, with an uncommon State of Disease of the Contents of the Cranium; the Intellects remaining unimpaired. By J. W. R. PARKINSON, Hoxton, Middlesex, Member of the Royal College of Surgeons, London.

ABOUT two years ago, a lad, then fourteen years of age, who had previously enjoyed a good state of health, became subject to severe attacks of head-ache, which would often last twenty-four hours, and recur at intervals of a week, or sometimes a fortnight, accompanied with pain in the right ear, from which occasionally issued a purulent discharge. These complaints did not interfere with his occupation, which was that of an errand boy. But about three months before his death, he was attacked with fever of the sub-inflammatory kind, which was supposed to be brought on by his bathing in a river when heated by exercise. It was at this time that I first saw him; but I did not consider the affection of the head greater than usually attends that kind of fever. A blister was applied to the nape of the neck, and cathartics were freely administered; and in about a week he became apparently convalescent. I then ceased to attend him, and was not called to him again until the day of his death, when I found him in a state of insensibility, with the pupils of his eyes much dilated, and a pulse not exceeding fifty strokes in the minute. This state was soon followed by convulsions, which terminated his existence.

The account received from his mother, was, that after I had been called to attend him, he returned to his situation; but that the attacks of head-ache had recurred oftener, and with greater severity than before the attack of fever; that the discharge from his ear had increased, was sometimes mixed with blood, and had a very disagreeable smell; that his appetite and strength became much impaired; and his general health so much affected, that he was obliged, about a week previous to his death, to leave his situation, and that it was with great difficulty that she then got him to walk to a physician, a distance of about a mile. The exertion seemed too much for him, and from that time he did not leave the house.

The pain in the back part of his head now became almost incessant; and he frequenrly complained of giddiness, which was often followed by vomiting. In this state he remained, without his mental faculties being the least disturbed, until the day of his death, when he was suddenly seized with convulsions, which lasted about a quarter of an hour, and left him in the state of insensibility before mentioned.

DISSECTION.

Upon examining the contents of the cranium, the following morbid appearances were observed. A considerable accumulation of fluid in the lateral ventricles, amounting to about three ounces: a small abscess in the middle lobe of the right hemisphere of the cerebrum, lying over and communicating with a carious opening in the superior surface of the petrous part of the temporal bone, through which a probe was readily passed into the ear. The tentorium partly detached from its connection with the temporal bone, and appearing, to a considerable extent, almost in a gangrenous state. There was an abscess occupying almost the whole of the right lobe of the cerebellum; from which, when an attempt was made to raise it up, full an ounce of very offensive pus made its escape. This abscess likewise communicated with the ear, through the carious state of the petrous part of the temporal bone.

This case appears to be very remarkable from such considerable devastation having taken place both in the cerebrum and cerebellum, and the patient still being able to walk the length of two miles, and yet possessing his intellectual faculties to the last uninjured.

V.

A Case of Epilepsy in an Infant, removed by the Hydrargyrus cum Creta. By William Gaitskell, of Rotherhithe, Member of the Royal College of Surgeons and Society of Apothecaries in London.

A lady, thirty years of age, in apparent good health, was brought to bed, at the full time, of a fine lively child; it had no visible imperfection of the head, and took the breast a few hours after its birth. When a fortnight old, while its mother was changing the napkins, the hands suddenly clinched and continued so for several hours, at the same time it threw its head back with a jerk, and resisted any attempt at replacement until the muscles spontaneously relaxed. The organs of digestion seemed much disturbed, particularly the hepatic secretion. Sometimes the intestinal evacuations were white, at other times green, and occasionally blackish, with much flatulent accumulation. The child's nutriment was only breast milk, of which the mother had a plentiful supply; while the mildness of her disposition, temperance of habit, and healthy appearance, gave no suspicion of a vitiated secretion.

In this way, with intervening reliefs, the child lingered on for seven weeks, when strong convulsions seized it, which lasted for several minutes and nearly deprived it of life. At this crisis I was first requested to visit it. Upon examining the child an hour after the fit, I found the pupils of the eyes contracted, with a slight disposition to squinting; it startled at noise; and shewed more than usual sensibility to light.

It now became a subject of interesting enquiry in what way this case should be viewed, whether as symptomatic or idiopathic? I had no hesitation in deciding upon the latter; and for the following reasons: first, because the morbid contraction of the flexor muscles of the hands, coupled with starting and unusual sensibility to light, shewed encephalic irritation: secondly, the progress of the disease to other muscles of the body, which terminated in general convulsions, with strabismus, and contracted pupils: and thirdly, because the nutriment was the mother's milk, its natural food, plenty in quantity, and nothing ill in quality; while the derangement of hepatic function, with vomiting and bowel irritation, are marked signs of hydrocephalic irritation. Therefore, to mitigate the symptoms and stop their destructive progress, I ordered a leech to each temple, a blister above the inner ankle, and half a grain of calomel every six hours, combined with rhubarb and prepared chalk; and to allay bowel irritation, which often distresses by spasmodic contractions, I gave, two or three times a day, an enema of fat mutton broth.

These means were continued for a fortnight, aided by tepid lotions of diluted vinegar to the head, and pediluvia to the feet, but without any beneficial effect. At last the friends, despairing of relief, resolved to leave the child to its fate. However, I prevailed on them to administer occasionally an emollient glyster, with a few drops of assafœtida.

During this interval I recollected attending the father, about the fourth month of his wife's pregnancy, with a syphilitic eruption, combined with marasmus and nocturnal pains, which were cured by the pilula hydrargyri submuriatis and sarsaparilla: hence I thought it possible that the brain of this child might have received some syphilitic impression from the male parent. Under this idea I made bold promises of cure;

and I determined to try mercury. I therefore prescribed

℞ Hydrargyri cum Creta,
Pulveris Tragacanthæ Comp. āā gr. ij. Misce ut fiat pulvis, sextis horis sumendus.

This was continued with great punctuality for one month, when the sensibility to light and noise diminished, the child began to notice its mother, which had not been before observed; it ceased the distressing screams during the night, which were before very common, and the hepatic secretion became regular and natural, for the stools were well formed, of a yellow colour, not offensive, nor mixed with mucus. The child now is full of flesh, quite sensible, and in good health, excepting a slight strabismus still visible in both eyes.

AUTHENTICATED CASES, OBSERVATIONS, AND DISSECTIONS.

XLVII.—*Case of Pompholyx Diutinus.*

J. Millar, aged eighteen years, a butcher, of a debilitated habit, was employed sifting cinders, by which exertion having excited profuse perspiration, he drank copiously of cold water, and the next day was seized with a shivering that was succeeded by a disinclination for food, and so great a degree of lassitude as to confine him to his bed. On the third day, red pimples appeared on different parts of the body, which were soon raised into vesications resembling small blisters. These continued to enlarge for four or five days; then remaining stationary for about a week, they became depressed on the surfaces; whilst the fluid, which was transparent and watery, became opaque and thickened, and the bladders subsiding, left incrustations that separated after ten days or a fortnight without any ulceration of the cutis, merely shewing the place where the vesications had been by a more vascular surface. This was the case with the whole of the eruption, excepting where the elbows had been affected; and here, apparently from pressure, an ulcerated surface remained for several weeks.

The bullæ or vesications exceeded two dozen in number, dispersed over the face, body, and extremities; they were of the size of a walnut, to the extent of nine inches in circumference; but several in the mouth, on the tongue, and in the fauces, were much smaller. As some of the vesications were declining, several more came out at irregular periods during three weeks, when the eruptive period ceased, leaving a great degree of tremor and debility.

The constitutional symptoms, besides the great prostration of strength, were, a constipated state of the bowels, a quick small pulse, and fever that partook of a hectic character.

The case did well by paying attention to the bowels, giving bark, wine, acidulated drinks, and nutritious broths. The incrustations that formed after the vesications subsided were dressed with mild cerate, and the ulcerations on the elbows treated by a similar practice as is adopted for those produced by burns.

It should be mentioned, that the fluid of most of the vesications was removed by absorption, with the exception of a few that were broken by accident.

XLVIII.—*A Case of Dystochia.*

The subject of this case was thirty-five years of age, delicate in constitution, and had borne five children. Two of these were born naturally and living at the full period of gestation, but extracted by the aid of the vectis; the other three were preternatural, and lost in the birth from the difficulty of expelling the head.

In the present labour, the arm presented, with premature discharge of the waters, and the os uteri but little dilated. The complete relaxation of the soft parts occupied the space of three days, though aided by bleeding, opium, and cool regimen; when these changes were effected, the arm was protruded through the os externum. As there was but little room for turning, and some danger in the operation, the hand, in the absence of pain, was slowly introduced into the uterus, and one foot grasped and secured with a noose, while the shoulder was raised and the turning completed. The head required much exertion for removal, from some deficiency in the capacity of the pelvis.

The woman, for the first week after parturition, had favourable symptoms; but, after this, rigors came on, followed by fever and abdominal pain, with diarrhœa. These symptoms resisted bleeding, purging, fomentations, and regimen, and at the end of three weeks terminated in death.

XLIX.—*Case of Indurated Mamma, successfully treated with the Spiritus Salis Dulcis or Spiritus Ætheris Muriatis.*

In October, the Reporter was requested to visit a young lady, about twenty-seven years of age, who was afflicted, as her friends supposed, with a cancer in her left breast. She was of a delicate constitution, of a fair complexion, light eyes, red hair, and in fact of a complete scrophulous habit.

On examination, the left breast was found considerably larger than the right, and below the nipple there was a hard lump, about the size of a pigeon's egg, placed in the midst of the glandular surface of the breast. She said that about five years ago she had received a severe contusion of her breast, which at the time inflamed it much; but that through delicacy she had omitted mentioning the subject until about a year ago. She then became alarmed, more at the pain increasing than at the tumour, the swelling having for some time previously subsided.

She first had felt a small lump similar to a cherry kernel, which gradually increased, and without pain, until the time above mentioned, after which the tumour continued increasing, as well as the pain. She described it as a violent darting pain extending to the axilla, and more so when she was warm in bed, or after any violent exertion, such as dancing, &c. She was ordered to live on a spare diet, to take five grains of the blue pill every other night, and to apply the spirits to the tumour.

She continued this plan for about three months, when the tumour evidently decreased, and the tone of her stomach was so much restored that she begged for more solid food. She now omitted the pills, and took magnesiæ sulphatis ʒij omni mane.

Although all the symptoms were so flattering, yet still the pain in the breast continued as violent as ever.

The magnesiæ sulphas, and the spiritus salis dulcis as an application, were persevered in for about six weeks longer; the tumour still decreasing, but the pain remaining. She was therefore ordered the carbonate of iron in a five grain pill, one to be taken four times a day, which she was to increase to two pills four times a day. In about ten days the pain began to subside, and in about six or seven weeks from the taking of the pills, and five or six months continuance from the first application of the spiritus salis dulcis, she was perfectly free from any disease or inconvenience. She continued the pills for about three months longer, gradually decreasing the dose; the spirits were applied for only a fortnight longer*.

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* We must take the liberty of observing upon this case, that when such care was taken to improve the constitution by the exhibition of powerful internal remedies, it is difficult to determine how far useful the external applications, to which the writer gives the credit of the cure, might have proved.—EDITORS.

PART II.

ANALYTICAL REVIEW.

I.

Some Practical Observations in Surgery; illustrated by Cases. By A. COPLAND HUTCHISON, late principal Surgeon to the Royal Hospital at Deal, &c. 8vo. pp, 167. London, 1816. Callow.

Some further Observations on the subject of the proper Period for Amputating in Gun-Shot Wounds; accompanied by Official Reports of the Surgeons employed in His Majesty's Ships and Vessels at the late battle before Algiers. By A. COPLAND HUTCHISON, &c. 8vo. pp. 64. London, 1817. Callow.

THE very title of the first of these works has induced us to give it a full and early consideration: for, however requisite elementary writings may be, it is to the publication of practical observations that we are to look for the real materials of improvement in Medical Science. It is to be regretted, indeed, that men the most able by their talents, and the most likely by the opportunities afforded them of making observations, are generally the most careless in recording, and backward in publishing, their discoveries. Their recollection of facts, and the short notes which they make of them, are sufficient, it is true, for their own purposes; and the public benefits by their observations during their lives, or whilst they are engaged in practice; but how much valuable information has died with its possessor, which might have been, with the smallest exertion, rendered useful to posterity! We are fully aware that every man is not capable of conveying his knowledge in language; but it should be remembered, that, in practical communications, eloquent writing is not expected; and all that is necessary for the purposes of Science, is simple perspicuity of description, and a strict adherence to truth.

We have been induced to make these remarks in entering upon the analysis of the volume before us, because, as the opportunities of the author have enabled him to make observations, we look to his work generally as an accurate and faithful record.

The first subject treated of is *Amputation.* Notwithstanding the high degree of perfection to which modern surgeons have brought this important operation, there still exists a diversity of opinion on several points connected with it; and to these the attention of our author has been usefully directed. In considering " the proper period for operating in gun-shot wounds, and all recent accidents," many satisfactory reasons are advanced in favour of immediate amputation. Indeed, among military and naval surgeons, who are undoubtedly the fittest judges as to the time for operating, we believe the propriety of an early operation is now generally admitted: but, still, a delay of from two to six hours is recommended by a very high authority in military surgery, with the view of permitting the sufferer to recover " from the general constitutional alarm occasioned by the blow*." The propriety of even this delay, however, is strongly combated by Mr. Hutchison; and we must confess, that, in cases where amputation is absolutely necessary, we cannot see any necessity for it. The strongest arguments in favour of no delay, arise from the successful results of immediate amputations in the naval service: and, to those brought forward in the Practical Observations, our author has adduced the additional pooofs of its efficacy afforded in the late formidable attack upon Algiers: in the majority of the ships engaged, in which all the amputations were effected as early as possible after the wounds were received; and with the most beneficial consequences†. With regard to the

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* Vide *Guthrie on Gun-Shot Wounds,* p. 24.

† We have drawn up the following table with the intention of exhibiting, at one view, the results of the various amputations performed during that attack, as reported to the Commissioners of Transports, by the Surgeons of all the ships engaged, except the Minden, from whose Surgeon no answer had been received, in reply to some queries proposed by our author.

Number.	Time which elapsed before the operation was performed.	Recovered.	Died.
16	Immediately	12	4
2	One hour	2	—
3	Two hours	2	1
2	Three hours and a half	1	1
8	Four hours to 4½ hours	5	3
1	Five hours	—	1
6	Five to six hours	4	2
2	Fourteen hours	—	2
1	Eighteen hours	—	1
4	Six to seven days	1	3

shock which the constitution receives at the moment a person is wounded, it is so little felt, that the individual is generally unconscious of having been wounded for some time after it has occurred.

> " Every officer, seaman, soldier, or marine, who had undergone amputation from gun-shot wounds, and have fallen under my observation and management," says our author, " have all uniformly ackowledged, that at the time of their being wounded, they were scarcely sensible of the circumstance, till informed of the extent of their misfortune by the inability of moving their limb; although, sometimes previously aware of having received a smart blow on the injured part."—p. 7.

A degree of sickness and faintness may immediately succeed the receiving a wound; but in this case the person is couscious of the injury; and we believe these sensations arise from an impression purely mental, which will occasionally obtrude itself upon the bravest. At this time, besides, in the majority of cases, the mind of a wounded man is readily and fully made up to submit to the operation, who would shrink from it were he allowed some hours for reflection: and if experience, also, has proved that bad symptoms less frequently follow immediate amputation, and our author has stated strong evidence in support of this fact, there can be only one opinion as to the impropriety of delay.

The following quotation of a letter from Dr. Dewar to the Commissioners of Transports, published in the " Farther Observations," will shew the effect of amputation performed during that commotion which has been thought so detrimental to its success.

> " In one case, only, did I witness that great constitutional commotion which has been said generally to follow severe wounds; and so far from being deterred from undertaking the operation in this case, by this state of commotion, I considered it an additional motive for proceeding to it without delay. The immediate consequences of the removal of the shattered limb in this case, were highly satisfactory—the commotion speedily diminished; and, in conversing with the patient some time afterwards, on the subject of the operation, he expressed himself in very strong terms of the relief he had experienced, from inexpressible suffering, by the operation. This amputation was performed at the shoulder-joint, a few minutes after the wound was received."—p. 50.

In coinciding with our author, however, we are fully aware of the weight of Mr. Guthrie's opinion, and respect it, as it originated from his observations on the field of battle; and we admit that cases may occur, such as Mr. Guthrie has stated, in which a delay is not only prudent, but absolutely necessary. In no instance can the rule for immediate amputation, or for delay, become absolute; differences of mind, of constitution, and of circumstances, requiring much to be left to the good sense and discrimination of the surgeon. In the majority of instances, however, "if," to borrow the words of another writer on the subject, "the knife could follow the shot directly, it would be the more effectual in preventing the accession of those symptoms which have been described as consequent to the commotion of the limb*."

Some useful remarks on the application of the tourniquet follow. Mr. Hutchison objects, with sufficient reason, to the use of a large pad, that which he has employed, and consequently recommends, being "not thicker than a finger."

> "It may be made by a few turns with a bandage, about a rounded piece of deal of the circumference of a goose-quill, an inch and a half in length. After the pad is thus prepared, it should be stitched, to prevent any embarrassment from unrolling during its application; with about a yard of bandage left hanging from the compress, for the purpose of passing round the limb."—p. 21.

This pad he places obliquely over the vessel, and, instead of placing the screw of the tourniquet immediately over it, places it on the outside of the limb; because it "will be less likely to be displaced by the web of the instrument, than when the screw-part acts immediately upon it." In separating the muscles from the bone, he prefers leathern or strong linen retractors in preference to metallic ones, "on account of the liability of the latter to detach the periosteum from the bone, at a point higher than the part to which the saw is to be applied; and thereby endanger tedious and troublesome exfoliations:" and, in all cases, he advises the rounding, with a strong blunt scalpel, the sharp edge of the cut extremity of the bone, to prevent any injury to the soft parts "when brought over the end of the bone in forming the stump."

The young surgeon will find some good practical hints under the section "on securing the blood-vessels."

Mr. Hutchison objects to the practice of cutting the ends of the ligatures close to the noose, when applied on large arteries, except in cases of amputation. In aneurism he conceives the collection of pus round the inclosed noose, however small that collection may be, would be so prejudicial,

> "as to be likely soon to extend the boundaries of its confined space, by breaking down the slender cellular connexions existing between the artery and its surrounding parts; thereby producing inflammation where its consequences are most to be dreaded, insulation of the artery and eventually ulceration of its coats, from whence a fatal hemorrhage might ensue."—p. 33.

We are not aware that the practice has yet been adopted in aneurism; but we would not anticipate the consequences our author has detailed. We also differ from him in the objections which he has made to the "washing in cold water the wounded surface of the stump before the dressings are applied." The pain is by no means great; and the re-action of the system which he dreads, has never been productive of any inconvenience as far as our experience extends; while on the other hand, by the washing, and clearing the stump of all extraneous matter, its healing, by the first intention, is greatly promoted.

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* See *C. Bell's Dissertation on Gun-Shot Wounds*, p. 60.

On the subject of "forming the stump," our author accords with Mr. Allanson in the propriety of forming a transverse seam or line of incision, formed by the bringing together the flaps, instead of one ventrieally longitudinal as is more usually practiced. His principal reason for preferring the transverse seam, is, that the weight of the thigh in "pressing on the longitudinal seam against the bed or pillow, tend to separate the sides of the flaps to a greater or lesser extent, according to circumstances;" whereas by making the seam transversely, the weight of the part only tends to "press the sides of the flaps into closer contact," and thereby promotes the adhesive process. The manner in which the vertical seam opens, is well illustrated by a diagram. In forming the transverse seam, the posterior muscles of the thigh require to be relaxed "by depressing the end of the stump;" and the patient must be constrained to lie on his back until the union of parts be completed. We have no remarks to make on our author's mode "of exposing and dressing the stump," which differs in nothing of importance from the method generally adopted.

In the "medical treatment after amputation," the antiphlogistic plan is necessarily adopted by our author; and the lancet directed to be employed, when, if incipient dysentery occur, "there is reason to suppose that the disease is aggravated by an inflammatory diathesis." When however it is of a more chronic character, and the result of a long residence in the torrid zone, he advises the use of calomel, and "the application of blisters to the abdomen, with the exhibition of starch glysters, combined with opium and sulphate of zinc, to mitigate tenesmus.

Illustrative of the practice recommended by Mr. Hutchison, several cases are subjoined; in one of which, the amputation of the foot was effected at the tarso-metatarsal articulation, and the patient recovered. As this is an important operation, and seldom performed in this country, we extract the account of the mode in which it was performed by our author:

"An incision was therefore made on each side of the foot upwards, towards the os calcis, of about two inches in length, beginning at the circular line of separation; and the diseased flaps above and below, were dissected from the metatarsal bones, until we reached the articulations; the metatarsal bones were then dislocated one by one, commencing with that of the little toe. The difficulty in passing the scalpel to divide the connecting ligaments of the central bones, would have rendered the operation much more painful and tedious, had we not, after dislocating each bone from the attachments to its corresponding bone of the tarsus, cut the inter-osseous muscles slightly downwards to the toes; and then with the finger and thumb of my left hand, pressed the tarsal head of the metatarsal bone upwards or downwards, as was most convenient; by which means we were enabled to divide the ligaments of the next bone, without being in the least degree embarrassed by the head of the last bone dislocated, jamming the instrument as we proceeded. The projecting end of the first cuneiform bone was cut off with the saw, so as to make it on a line with the others: two arteries were tied, and the flaps gently approximated with adhesive straps.

"This is a tedious and very painful operation. Farmer's foot, however, was perfectly cicatrised in five weeks, notwithstanding the diseased state of the integuments forming the flaps; and when discharged the hospital, he could walk remarkably well without any assistance from a stick, with only a wooden peg for his left leg; and a shoe fitted and made of soft leather, well stuffed with wool at the toe part, for the remains of his foot."—p. 68.

Mr. Hutchison ascribes the merit of having first performed this operation to the late Mr. Turner of North Yarmouth, who performed it successfully about the year 1787: but, if the French writers be correct, it was practised on the continent at the beginning of the eighteenth century. It is remarkable that it was revived in France by M. Deschamps, nearly about the same time that Mr. Turner performed it in this country*.

Two cases are added, corroborating the opinions of Baron Larrey, Mr. Guthrie, and other writers, as to the safety of amputation "during the spreading of mortification, arising from gun-shot wounds, or other recent accidents;" a fact undoubtedly of great importance in a practical point of view; but, notwithstanding the high authority by which it is recommended, we must caution the inexperienced from imagining that every case of recent injury attended with mortification admits of amputation. The state of habit of body of the patient, and many other circumstances, require to be taken into very serious consideration, prior to deciding on the immediate propriety of amputation. The latter only of the two cases related by our author is fully in point; in the first the disease being altogether in its very incipient stage.

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* Some improvements in this operation were proposed, in a Memoir read to the French Institution, on the 13th of March 1813, by *M. J. Lisfranc-de-St.-Martin.*

The next dissertation is "on the treatment of erysipelatous inflammation." This is a disease which is very prevalent in the Navy, and hence our author's attention was particularly attracted to it. He ascribes it as it appears among seamen, chiefly to the nature of their diet, and the sudden alterations of temperature to which they are exposed. That species of it which pervails, is that which has been denominated *phlegmonodes* by systematic writers; and its active influence is "found more especially directed to the reticular, or condensed cellular substance," forming the muscular aponeurosis; although it often primarily affects the skin, and is thence communicated to that membrane. When pus is formed, it more frequently appears beneath the aponeurosis, in contact with the muscles, and generally rapidly destroys that membrane. It has sometimes, however, been found to commence in the periosteum, "detaching that membrane and insulating that bone;" and may, when the predisposition exists, be a sequela of accidents and injuries of various kinds affecting the above-mentioned parts.

The progress of the symptoms and their consequences are perspicuously and accurately detailed by our author, who next proceeds to lay down his peculiar plan of treatment, which it is the principal object of his essay to recommend. Its chief peculiarity consists in "making free incisions with a scalpel, on the inflamed surface," down to the muscles, previous to any secretion of pus having taken place.

"These incisions," observes our author, "may be made about an inch and a half in length, two or three inches apart, and varied in number, from six to eighteen, according to the extent of surface the disease is found to occupy.

"By means of these incisions the operator will not only be enabled to abstract fifteen or twenty ounces of blood from the surcharged vessels actively engaged in feeding the disease; but he will also afford the most unequivocal relief to a tense and over-distended skin, which is clearly evinced by the great retraction that takes place between the labia of the incised wounds, immediately after the instrument is withdrawn, so as to give them a gaping appearance; and still farther, these incisions form ready channels through which any fluid may pass as soon as secreted; and thus the formation of bags of matter, and the insulation of the integuments, so much to be dreaded in E. phlegmonodes, will be effectually prevented.

"When erysipelas has been occasioned by some violence done to the periosteum, from blows or contusions received on the exposed surface of the tibia; or when it is purely an idiophathic disease, and from the symptoms there is reason to conclude, that the vessels situated on and in communication with this membrane, have assumed a morbid action; one or two incisions should be made on the fore part of the tibia, and carried down through the inflamed membrane to the bone: by these precautionary steps, caries, or in young subjects even necrosis, may be happily prevented; at all events, it will be employing the most decisive preventive means in our power."—p. 87.

To the efficacy of this plan of treatment we can bear testimony, from having lately employed it before we had seen Mr. Hutchison's work, in an instance of the disease, which arose from a punctured wound of a fascia; but we are inclined to suspect, that it is in those attacks which are strictly symptomatic that the beneficial effects of incisions will be found most evident. Mr. Hutchison follows the incisions with fomentations, alternated with cold or evaporating lotions; keeping at the same time the bowels free, opening the skin by diaphoretics, and allaying the general irritation by an opiate at bed-time. The early and bold exhibition of bark, which has been so successfully employed in the London Hospital, he thinks is contra-indicated in Naval practice owing to the strong inflammatory diathesis which pervades the majority of seamen; but even in these patients it is beneficial when the inflammatory action terminates either in suppuration or in effusion.

In concluding his remarks on erysipelatous inflammation, our author hesitates to give the weight of his experience in support of the opinion of its contagious nature, although he acknowledges that he has "met with one instance where the disease has attacked another patient in the same ward in which such cases were placed, and who had ever before been exempt from that disorder." Our own experience has completely fixed our opinion as to its contagious nature.

The third Essay comprises "the History of a Case of Aneurism of the Popliteal Artery, in which a new method of applying the ligature was practised."

This is a very important case; and although the state of the patient was such as to forbid any decisive conclusion being drawn from it, yet, it adds strength to the other testimony on record, that we are not to draw inferences regarding the human species from the results of operations on brutes; particularly with regard to the adhesive process, which takes place much sooner, and more perfectly, in quadrupeds than in man.

The subject of the operation detailed by our author, was, "a short muscular man, dark complexioned, quick and animated," and, excepting the aneurism, was apparently in full health of body. The tumour, which was the size of a small orange, was painful and pulsated strongly; but "there was neither discolouration nor œdema of the limb." After properly reducing his system by a bleeding and two cathartics, the operation was performed in the following manner:

> "An incision, nearly four inches in length, was made on the *outer* margin of the sartorious muscle, which being raised a little from its bed by the handle of the scalpel, the theca of the femoral artery was exposed to view exactly in the middle of the thigh; the inner side of the wound was kept raised by means of the finger-instrument, so useful in this operation, which enabled me to detach the artery from the vein and nerve with great facility and dispatch; and when about a quarter of an inch of the vessel was so detached, a double ligature was passed under it. The artery appearing healthy, it was elevated a little upon the curved handle of the bistoury, whilst the upper ligature was firmly tied with a loop or slip knot, keeping the running end in reserve for its more easy disengagement: here my colleague, Dr. M'Arthur, by request, did me the favour to press the noose upon the handle of the instrument with his finger, to prevent its giving way, whilst I made a second and similar knot, by passing the loop part through the fixed single end of the ligature, the other being the slip or running end. In like manner the lower ligature was tied, leaving a space somewhat less than a quarter of an inch undivided.
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> "The wound was just sufficiently covered to exclude the external air; and all that remained of pulsation in the tumour, from this period, was a slight undulatory motion."—p. 108.

In six hours afterwards the wound was carefully opened, and the artery being compressed where it passes over the pubis, the ligatures were removed "without the *slightest disturbance* to the vessel;" but in less than half a minute afterwards "the artery became distended with blood, and the pulsations in the tumour were equally as strong as they had been previous to the operation." Fresh ligatures were then applied, and the case treated in the usual method; but secondary hæmorrhage followed after the ligatures came away, and the leg was finally amputated. This operation however did not succeed, a disposition to gangrene supervened, and the patient died on the morning of the thirtieth day from the first operation. Dissection displayed a state of the vessel between the aneurismal sac and the place where the artery had been tied, which might have prevented the success of the first operation, even if the refilling of the vessels had not followed the removal of the ligature, and adhesion had taken place; for "half way between the sac and the part of the artery that had been tied, two considerable branches opened into the main trunk, sufficiently large to have carried on the circulation through the old channel."

We confess we accord with the following physiological conclusion of Mr. Hutchison:

> "It may be here worthy of remark, that although the pulsations of the tumour returned with equal force, after the removal of the ligatures, as those that preceded their application, and the artery at the parts constricted, was equally distended with blood, as in its natural state, clearly demonstrating that there existed no impedi-

ment to the circulation; yet, on placing our little fingers on the space between where the two ligatures had been applied, no pulsating action could be discovered, either by my colleague or myself. May we not infer from this circumstance, in opposition to the opinion of modern physiologists, that there is a contractile power inherent in the coats of arteries independent of their elastic one?"—p. 113.

Our author next details a case useful to young surgeons, inasmuch as it shews the importance of "the use of the probe in any operation in which a punctured artery is to be tied," by introducing it into the aperture of the vessel. In the instance before us, the brachial artery was punctured obliquely in bleeding. Pressure being applied upon the artery near the axilla, and an incision made over the puncture, so as to lay bare the vessel, the operation was conducted in the following manner:

"A probe was passed through the opening into the canal of the artery upwards, which enabled us to divide the vessel completely at this part, to raise the divided upper end into which the probe had been introduced, and to detach it a little way from the great radial nerve and its cellular connexions, until we could lay hold of it with a pair of artery forceps, by which it was drawn downwards, and the artery firmly tied with a ligature, in the same manner as in an amputated stump. In detaching the lower divided end of the artery with the probe introduced, a few fibres of the tendons of the biceps were necessarily divided, and a ligature was in like manner applied here.

"The wound was cleared of blood, and the sides were brought together by slips of sticking-plaster. The ligatures came away in a few days, the wound very soon cicatrized, and left the patient in as full possession of the use of his arm, as if no such accident had occurred, and he was discharged to his duty."—p. 128.

A case of *Necrosis* is brought forward by the author, chiefly, as he observes, to illustrate "the thickening of the periosteum externally, previous to the deposition of osseous matter, and to the complete ossification of the medullary bags or cells;" from which he supports the opinion, that the new osseous shell owes its origin to the periosteum and its vessels. He does not, however, accord with the opinions advanced by Dr. Macdonald (*Thesis de Necrosi ac Callo*) and Dr. Macartney (*Crowther on Diseases of the Joints*), that the ossific depositions "are formed upon the inner surface of the thickened periosteum, *i. e.* between that membrane and the bone;" but is rather inclined to think that, they are "made in the substance of the bone itself, or between its layers." This opinion leads him to conclude, also, that "union in fractured bones and the formation of callus, is produced by a specific action in the vessels" both of the periosteum and the bone; but principally in the former; and hence, "that where there is a deficiency in the periosteum, there can be little or no deposition of bony matter." It is to this deficiency he ascribes the great difficulty of affecting an union of the patella, and the olecranon process of the ulna; and, he might have added, the impossibility of finding a case of union of fracture of the neck of the femur, in which the limits of the fracture are completely confined within the capsular ligament of the joint. We can readily conceive the possibility of the union of the fractured surfaces occurring in such a case, when the fracture extends obliquely beyond the capsular ligament, and advances under the periosteum; for in whatever manner this membrane acts in assisting the formation of callus, there is very little doubt that the process is begun by it; and when it has once commenced, we can readily conceive that it may be propagated to the whole extent of the fractured surfaces even when the greater part of these are within the capsule. Thinking on this subject as we do, we are disposed to believe, that were the few preparations of examples of the union of fracture of the neck of the femur minutely examined, it would be found, that in no instance has the fracture been completely confined within the capsular ligament. In necrosis also, as Mr. Hutchison justly remarks, the new osseous shell generally terminates "at or near to the epiphysis of a bone." The appearance of the bone in this case, is illustrated by a plate.

The next case is one of abscess of the liver of a very extraordinary nature. We regard it useful as far as it displays "the vast resources of nature, and what she can effect when her intimations are judiciously seized, and her salutary efforts properly assisted." The object of it was a female, who had laboured under an affection, evidently of the liver, for nearly twelve years, and which had at length relaxed her to such a state of emaciation and debility, that the delay of the operation which relieved her, for only another day, might have proved fatal. The cyst had pointed externally, about four months previous to the operation, and in that period neither the tumour had appeared enlarged, nor was it more pointed. Some decisive step, however, was requisite to be adopted, as the stomach rejected every thing, the pulse was small and about 125 in the minute, and the strength rapidly sinking. On introducing a trocar into the most prominent part of the tumour, "only a few ounces of pus with three or four hydatids, escaped through the canula;" but as it was retained in its place, and a probe afterwards used to remove whatever might obstruct the canula, the entire quantity of pus and hydatids discharged, at the expiration of three months, "amounted to upwards of seven gallons and a half." Tonics and alteratives were afterwards administered, and the discharge kept up by continuing open the wound, until the general health of the patient was fairly established; which was the case in December 1815, at which time "the biliary secretion was in proper colour and proportion, and the menstrual discharge regular."

A case of lumbar abscess follows, which was successfully treated by giving an occasional exit to the pus, and injecting the cyst immediately afterwards with lime water. The discharge was effected at three distinct periods; and although, as the author remarks, a single case ought "not materially to influence the judgment of other surgeons, till further experience shall have confirmed its utility;" yet, the putting in practice any rational suggestion, under proper circumstances, which may tend to enlarge the boundaries of our remedial dominion, is a merit which ought not to lose its reward.

The volume concludes with a case of ununited fracture, which, although a cure was not completed, yet, tends to corroborate the testimony, already sufficiently conclusive, of the beneficial influence of setons in cases of this description.

In closing our analysis of Mr. Huthison's work, we think it our duty to say, that it throughout displays a considerable talent for observation, and a determination to ascertain facts by direct experiments: qualities well fitted to advance the author's views as a practical surgeon; and to promote his exertions in an object which he appears to have really at heart,—the improvement of his profession.

II.

Précis Elémentaire des Maladies Réputées Chirurgicales. Par J. Delpech. 3 vols. 8vo. Paris, 1816.
(Concluded from page 131.)

As M. Delpech's work consists of elementary rules deduced from the actual state of surgical science, he introduces very few remarks which are the result of his own individual experience. In speaking of the means of hastening the separation of necrosed bones, he mentions the efficacy of the diluted sulphuric acid, in cleansing the consistence of the osseous tissue by depriving it of its earthy parts, and thus facilitating its removal. By applying this acid to the projecting bone of a conical stump, he has, in many instances, exchanged an unfavourable disposition for a healing process.

An extensive necrosis, comprehending the whole thickness of the cranium, will necessarily be followed by a separation of the dura mater; inflammation and suppuration of this membrane succeed, and the matter, accumulated between it and the dead bone, may make dangerous pressure upon the brain, unless, by the separation of the necrosed bone, the absorption of a part of it, or its removal by an operation, an issue be given to the purulent matter thus confined. M. Delpech has found in authors no satisfactory description of this case. Inflammation within the cranium from concussion, fracture, or external violence, generally takes place in less than a fortnight from the injury; but the disease here referred to is twenty or thirty days before it shews itself in unequivocal symptoms, and has been observed to occur at this period in consequence of the bone being exposed and necrosed by extensive death of the integuments of the cranium from hospital gangrene. The denudation of a considerable surface of bone, which for twenty or thirty days has shewn no disposition towards furnishing granulations, is a sufficient reason for believing that death has taken place in the whole thickness of it; and the supervening of inflammatory symptoms, when nothing else has occurred to give rise to them, affords an additional motive for the conjecture, that pus is or will be formed between the dead bone and dura mater. The diagnosis is easy and certain where the symptoms do not evince themselves till this late period: it must be difficult and embarrassing when, as sometimes happens, they occur much earlier; unless the accident, which has determined the necrosis, was of a nature not to interfere with the brain or its membranes, as hospital gangrene of the scalp. It must be confessed, there is great uncertainty where a wound or blow has injured both brain and cranium; the bone may not be dead through its whole thickness; or if it is, this may not be the cause of the symptoms, which, at so early a period, arise from many other circumstances. Notwithstanding this uncertainty, M. Delpech lays down as a rule, that

> "When symptoms of inflammation of the membranes of the brain are superadded to an evident necrosis of the cranium, which there is reason to suppose extensive, and the separation of which has not yet been accomplished in any part of its circumference, we ought not to hesitate to trepan in the situation of the mortified bone; for we may be sure, that pus has already been, or soon will be, formed, and that its accumulation will become most dangerous to the patient."—Tome ii. p. 165.

M. Delpech has written largely on urinary calculi; but the means proper to be employed for preventing their formation, and the medical treatment to be adopted with that view, subjects of the first importance, are passed over in silence. When an urinary calculus is once ascertained to be present in the bladder, it is, perhaps, too common with us to advise an operation without delay. M. Delpech has pointed out the impropriety of such advice, and described the cases in which the operation should be deferred for a time, or altogether relinquished. A small calculus may give little inconvenience in the bladder, and sometimes the disposition for increasing its bulk, by an additional calcareous deposit, seems to be suspended, and it remains of the same size for years. Here, the operation is not called for; and it has been observed, says our author, that the operation has been followed by the most fatal effects, when performed on patients in whom the presence of calculi has excited at the time no inconvenient symptoms. The ordinary symptoms of continued irritation in the bladder and of chronic inflammation of its mucous membrane, sharp pains accompanying the frequent emission of urine, want of sleep and appetite, and slight fever, the result of all these, are so many indications for the immediate removal of a calculus. But gastric disorders, considerable fever, or any acute disease conjoined with these, are accidental combinations, which must be combated and subdued before the operation is thought of. Acute inflammation of the bladder, produced by the calculus alone, or in conjunction with other causes, equally contra-indicates an immediate operation. The most serious complication is ulceration of the bladder; a decided motive for foregoing the performance of an operation, which would leave the patient still under the influence of the more serious disease. We must, however, avoid the error of confounding ulceration with catarrh of the bladder; the latter, whether slight or severe, is not a sufficient cause for declining to operate.

> "This error," M. Delpech observes, "is difficult to be avoided. Let us, however, recollect, that all catarrhal affections are more directly under the influence of changes in the atmosphere; that a dry state of the air alleviates the symptoms, whilst moisture aggravates them; and that these influences are strongly marked in catarrhal affections of the bladder. If, therefore, under these circumstances, the fever disappears at intervals, and the purulent secretion mixed with the urine diminishes or is suppressed; changes so remarkable, and so incompatible with an ulcerated state of the bladder, ought to make us doubt whether this latter affection really exist."—Tome ii. p. 230.

Hernia is the first subject which M. Delpech has discussed under "dislocation of parts." Emaciation is enumerated amongst the most frequent causes of this disorder; the natural openings of the abdomen, through which the viscera generally escape, being rendered larger by absorption of cellular substance. The author has carefully marked the practical distinction between an obstructed hernia (*hernie embarrassée*) and a strangulated hernia. Whenever the latter state occurs, and the irreducible tumour is inflamed and intolerant of pressure with the hand, he advises immediate recourse to the operation. In an obstructed hernia, the leading symptoms of strangulation may all be produced by the accumulation of the contents of the intestines, such as hiccough, vomiting of bile, chyme and fæces, suppression of stools, &c.

"At length the contents of the hernial sac irritated, distended, and at the same time constricted by the margin of the opening into the abdomen from the increase of volume, begin to take an inflammation, which, though at first mild, extends itself to the rest of the viscera. This consecutive strangulation, which, as is sufficiently evident, may become dangerous in its consequences, is always slow in making its appearance; and until it does appear, the symptoms are less urgent; the vomiting is moderate and occurs at considerable intervals; the pulse is natural; the tongue moist; the patient suffering little thirst; the body is swelled, but little painful; the tumour is neither hot nor remittent, but soft and yielding; the neck of the tumour is neither hard nor painful. The scene is changed when inflammation of the prolapsed parts has converted an obstructed into a truly strangulated hernia. Then we observe all the signs of a more or less extensive inflammation of the viscera of the abdomen, which in these cases may commence either within or without the hernial tumour."—t. ii. p. 490.

The ability of the surgeon is exercised in distinguishing between an obstructed and strangulated hernia, and in judging of the progress of the inflammatory symptoms. When a hernia makes its appearance for the first time in an irritable young man, in consequence of some over-exertion, and becomes immediately strangulated, the inflammation makes rapid progress, and gangrene may be determined in a few hours. On the contrary, in a weakened old man with an ancient and voluminous hernia, and where the strangulation is consecutive to an obstruction of fæces in the hernial tumour, inflammation advances slowly, and the intestine is found at the end of several days to be free from all marks of mortification.

The third volume of M. Delpech's work begins with the "dislocation of hard parts," or what in common language may be called luxations. The subject is well treated, but affords no new remarks, except upon accidents of rare occurence.

Dropsies, neuralgiæ, and some defects of the organs of sight and hearing, are brought together in the next section under the title of *Lesions Vitales.* In hydrocephalus, the fluid has always been found in the cavities of the ventricles. It is singular that the arachnoid, a serous membrane possessing the same properties as those in other parts of the body, should not furnish the greater part of the accumulated fluid; and that the surfaces of the ventricles on which a membranous lining is scarcely to be traced, should so readily supply an abundant serous exhalation; but we cannot refuse M. Delpech's remarks, the evidence of actual demonstration. Hydrocephalus not unfrequently occurs before birth, and is the cause of the acephalous fœtus; "the parts which form the mass of the cranium yielding to the extreme distension, at last give way; the accumulated fluid is evacuated, the walls of the cavity disappear, and scarcely any vestige of the cranium remains. "Dropsy of the brain may be prevented by the proper treatment of the symptoms which precede it; but we have no proof of the possibility of determining the absorption of fluid within the ventricles when it has once become deposited there."

M. Delpech has described the hydrocele of the tunica vaginalis amongst dropsical affections; the hydrocele of the spermatic cord he regards as encysted tumours; the membrane secreting the fluid being a newly formed structure, and therefore to be ranked with a class of diseases which are still to be noticed.

The last section of the treatise we are considering, comprises organic diseases, (*lesions organiques,*) which are arranged in three divisions: First, those in which the original structure is simply changed; second, those in which new morbid structures are formed; third, those which are attended with the destruction of original and the formation of new parts. Nævi, warts, dilated veins, cataract, and caries, are the principal subjects which come within the first of these divisions. M. Delpech argues with some ingenuity against the opinion of pressure being the sole or even the principal cause of varicose veins, which are often found where no obstruction to the circulation is indicated; as in the neighbourhood of tumours, particularly those of a cancerous nature.

From considering caries in its last stage, when a part of the bone has become exposed and destroyed, pathologists have identified this disease with the ulceration of soft parts, an error M. Delpech has been at much pains to correct. Caries, as well as ulcers, is connected with a peculiar diathesis, and appears spontaneously, external injury being only an occasional cause of it; but it may exist without a solution of continuity, and the bone may even still retain its connection with the surrounding soft parts, the first effect being merely the softening of its tissue.

"When the disease is established, we find the diseased bone separated, to a greater or less extent, from the surrounding soft parts; its volume is neither increased nor diminished; its tissue appears natural; its colour is changed, and varies from light-grey to brown or green; its consistence is so altered, that a metallic instrument readily penetrates it. Independent of the suppuration of the adjoining soft parts, the carious bone itself furnishes a greyish ichor, which becomes brown on exposure to the air, and exhales a fœtid smell not unlike that of rancid oil. The changes of colour and consistence which mark the extent of caries, may penetrate to different depths in the bone. The greyish colour can be traced to its limits, but the morbific tinge is gradually lost, and the consistence of the bone may be altered beyond the extent of the discoloration. The scales of a spongy bone are flexible, and can be cleanly divided with a cutting instrument; the membrane lining its cells is injected, red, thickened, and as it were soaked in a superabundant reddish fluid. These last alterations are even observable in portions of the bone which the soft parts have not yet abandoned, whilst the part manifestly carious is already isolated; but wherever the natural properties of the bone are changed, there exists a sensible tumefaction of the contiguous parts."—t. iii. p. 303.

The second division of organic diseases, consisting of newly formed structures, includes polypi, encysted tumours, cancers, exostoses, &c. Tumours originating in the substance of nerves, particularly those of the upper extremities, are described by M. Delpech as cancers of these organs; they resemble cancer in the structure, and in the circumstances under which they are reproduced after their extirpation. These tumours, even when of a very small size, are generally accompanied with insufferable pain; but, what is more singular, when they have, as sometimes happens, attained to a great size, they become indolent. They can only be extirpated by a double section of the diseased nerve, which is necessarily attended with a corresponding loss of function in the parts to which the nerve is distributed; but often these effects have been already produced by the progress of the tumour; in which case the pain extends to all the branches of the injured nerve. The author, however, cautions us against being misled respecting the nature of a tumour by the excessive pain which may accompany its progress, as he has seen a tumour of the periosteum of the fibula produce this symptom, from the stretching which it occasioned of a branch of the popliteal nerve. Intolerable pain from the compression or extension of a healthy nerve has been before observed to attend the progress of a tumour*; and, perhaps, this is not less frequently occurring than the disease of the substance of a nerve which the author has described.

M. Delpech pays a just encomium on Professor Dupuytren's operation† of removing the mental portion of the lower jaw, at the same time that he tells us to wait the result of future trials before we place it amongst the valuable resources of our art. Experience has determined this point, probably since our author wrote his remarks. We have received, from a most valuable correspondent, accounts of Professor Dupuytren's having thrice repeated the operation in question, in cancer of the lower lip, affecting the jaw-bone; and only in one instance has the operation been unsuccessful.

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* Vide *Home on Cancer*, p. 86. † Vide *Repository*, vol. iii. p. 432.

Ulcers, scrofulous tubercles, spontaneous aneurisms, and fongous swellings of joints, form the last division of organic diseases; and upon each of these the author has given some very valuable observations: but we must, at this period of our analysis, confine our selections to the subject which appears likely to present the most novelty and interest to our readers.

Scrofulous tubercles have been little attended to by pathologists, except when situated in the viscera; and the phenomena, which are the results of their presence in other parts of the body, have been confounded under the title of scrofulous abscesses and ulcerations, suppurating glands, vertebral disease, &c. The small spherical tubercles which, when situated in the lungs, are one of the causes of consumption, may exist also in the skin, in membranous surfaces, in cellular substances, in the tissue of muscles, tendons, ligaments, vessels, nerves, viscera, and even in the substance of bones. These tubercles commonly arise spontaneously, and often without any evident provocation; they are described by M. Delpech to be of a pearly whiteness, semi-transparent, almost of a cartilaginous consistence, of an uniform texture, but wholly different from that of the organs in which they are found, and with which they are in contact. Wherever these tubercles are situated, a part of the primitive structure is removed to make room for them; which is the reason they are arranged under organic disease attended with destruction of parts. Whilst small, they may remain without exciting inconvenience: when they have gained a certain volume, they become opaque, white or yellow, less firm in their consistence, flocculent, and mixed with serum. This change, though often inevitable, is always to be feared, as it determines, in the parts which envelope the tubercle, a degree of slow inflammation; the tubercle becomes as a foreign body, and the remains of it are expelled by suppuration around it, the progress of the disease being often marked by ulceration, and the gradual destruction of the organ. M. Delpech disapproves of the doctrine that tubercles are the result of inflammation.

"It is from considering tubercles in the internal viscera, where it is always difficult to observe strictly the changes which take place, that we have doubted whether to attribute their formation to the influence of a peculiar diathesis, or to the continuance of a slow inflammation. We have not taken into consideration the numerous examples of tubercles found in certain parts of the body after death, where no symptom had appeared, during life, of inflammation in the organs thus diseased. We have overlooked the fact that a vast number of sub-cutaneous swellings, which have appeared without the least mark of inflammatory action, already contain tubercles sometimes in a very advanced state; that at the moment when the first symptom of inflammation about these tumours is evident, they are about to change their consistence and become dissolved; that this event is often retarded by our endeavouring to combat and subdue the inflammatory action. The general conclusion to be drawn from facts, therefore, is, that the formation of tubercles not only depends on the scrofulous diathesis, but that tubercles furnish the most unequivocal mark of that state of the system."—tome iii. p. 634.

If we admit, with M. Delpech, that the formation of tubercles takes place in scrofulous subjects independent of inflammation, we cannot on this foundation erect any new rule of practice. Whenever tubercles produce any inconvenient symptoms, they cause inflammation of the parts in contact with them, by acting as foreign bodies; and the only indication, with regard to treatment, is to prevent or moderate this inflammation, that we may obviate the consequences of it—suppuration and ulceration of the organ in which the organic disease is situated. For effecting these desirable objects, M. Delpech seems to rely upon nothing so much as means that produce a counter-irritation. "How often have we seen caustics and setons, established on the surface of the thorax, suspend the progress of phthisis from pulmonary tubercles!" In the vertebral disease, which the author attributes to the same cause, the efficacy of caustics is often very conspicuous: but we cannot help suspecting that M. Delpech entertains too favourable an opinion of this treatment in other cases; and our readers will surely agree with us, when we tell them that so great a prediliction does he shew for this practice, that he advises us, after removing polypi of the nose, to put a seton in the nape of the neck to prevent their being formed again.

We shall conclude our extracts with M. Delpech's description of the pathological appearances in Pott's disease of the spine.

"From anatomical researches we learn, that, when this disease commences, the bodies of the vertebræ already affected appear softened, so as to give way under the weight of the parts which are situated above them. A more attentive examination shews that scrofulous tubercles, whether situated on the surface of these bones, or in the very centre of the osseous substance, are the true cause of this species of softening, and of this destruction, of the bodies of the vertebræ. At different periods of the disease we have found the tubercles situated at various depths in the long tissue, and in the surrounding soft parts; we have observed them at different periods after their formation, and in different stages of the disease, the cavities in the diseased bones still containing the pulpy matter into which the tubercles are converted when they change their form and consistence."—tome iii. p. 646.

In subjects who laboured under this disease, M. Delpech has often found at the same time tubercles in the lungs, liver, mesentery, stomach, the tissue of muscles, &c.; and he believes it to occur frequently as a distinct disease from caries of the spine, although it be sometimes complicated with it. As far as we can discover, the vertebral disease from tubercles, and caries of the spine, occur in subjects of the same diathesis, often meet together, are attended by the same symptoms, benefited by the same treatment, and tending equally to the same unfavourable termination: the remarks of M. Delpech, therefore, are more interesting to the pathologist than to the practitioner, and the latter will perhaps accuse the former of making a distinction without a difference.

In the progress of our analysis we have made few remarks upon the classification, because there is no end to criticism upon such a subject. The author seems to have struck out a path for himself; he has formed an arrangement of surgical diseases at once original and comprehensive: but that it should be free from objections is impossible, since he has to write on a Science which past and present ages have not been able to bring to a tolerable state of perfection.

Every new classification has some recommendations; and the author is in some cases led to take a new view of certain diseases, and to treat of them in a way which had not been marked out by his predecessors. For instance, M. Delpech has removed ovarial dropsy from dropsical affections, and placed it amongst encysted tumours, an alteration which, upon due consideration, seems perfectly justifiable: this disease certainly bears very little analogy to dropsy of the abdomen; the fluid is contained in a newly formed cavity, is not removed by absorption, and does not yield to the use of any medicine: this malady is, moreover, unaccompanied with dropsy in the rest of the system; and in short, it bears, in its most striking features, a strong resemblance to encysted tumours whose contents are fluid. We may fairly, in this case, balance the advantages against the objections, and rest contended to look for stricture of the urethra in one volume, and retention of urine in the next; to read of necrosis under gangrene, and the separation of the sequestrum under extraneous bodies.

III.

Report of Observations made in the British Military Hospitals in Belgium, after the Battle of Waterloo; with some Remarks upon Amputation. By JOHN THOMSON, M.D. F.R.S.E. Regius Professor of Military Surgery in the University of Edinburgh, &c. &c. 8vo. pp. 281. Edinburgh. Blackwood.

THE advantages resulting from the battle of Waterloo were not confined to the political state of Europe. At the moment when the overwhelming military power of France, which, phœnix-like, had risen from the ashes of her revolution, was crushed and almost annihilated, Science lighted her torch at the pyre; and, wading through the blood which swelled the tide of victory, amid the hecatombs of the slain, stunned by the groans of the suffering wounded and the dying, was observed searching for those means which, in alleviating the horrors consequent to battle, should dissipate much of that dejection which weakens the shout of triumph, and must always hang upon the brow even of the conqueror; and, in the advancement of the healing art, tend to the general benefit of the human race. The vicinity of the field of battle attracted to it, as soon as the result of the contest was known, many of our best surgeons, with a desire to improve the opportunities of observation which the scene afforded; and, amongst others, the author of the Report before us, who, in company with Dr. Somerville, arrived at Brussels on the 8th of July 1815. No man, assuredly, who visited the scene, was more capable of appreciating the value of the plans adopted by the medical staff of the army, in the establishment of the different military hospitals in Belgium; and the Report, which is the result of that visit, although evidently but a sketch, exhibits, in a very striking manner, the characteristic traits of the master.

The first section of the volume, which treats of the "general state of the wounded," contains a well-merited encomium on the medical staff of the army, whose zeal and attention on this occasion were never surpassed. That part of Belgium, which was the theatre of war, is very little elevated above the level of the sea; which, joined to the season of the year in which the battle was fought, subjected the wounded to the attack of remittent and intermittent fever; yet, from the favourable state of the weather, the number who suffered from fever was, upon the whole, comparatively small. At Antwerp, hospital gangrene appeared, which our author attributes to the low situation of the town, and does not think it was spread by contagion; whilst bilious remittent fevers also made their appearance, "and in some instances even proved fatal to those who had undergone either primary or secondary operations." In many of the cases of bilious fever "the skin became of a colour so yellow as to give to those affected with it the appearance of jaundice;" and, except in the absence of the black vomit, in no circumstance did these cases differ from yellow fever: yet it was nevertheless remarkable, that, "in general, no obstruction or other disease of the liver could be perceived, on examination after death of the bodies of those in whom this yellowness of the skin had taken place." The hectic or secondary symptomatic fever had also a bilious character, and was with difficulty distinguished from the remittent and intermittent fevers of the country.

"To us it appeared," says our author, "that the best diagnostics between these two fevers were to be derived from the furred state of the tongue, and the peculiarly oppressive sensations which occurred in the episgastric regions of those affected with the remittent or intermittent fever."—p. 20.

Much was done for the comfort of the wounded by the inhabitants of Brussels and Antwerp; and much of the success attending the treatment must be ascribed to the bearing up, amidst their sufferings, of the wounded themselves, who exhibited, it is justly observed, "a fortitude and patience worthy of the heroes who had fought and conquered in the battle of Waterloo."

In describing "the different kinds of wounds" which came under the notice of the Reporter, their usual arrangement, by practical writers, into two classes, according to "the form of the weapon with which they are inflicted, and the region of the body in which they occur," is adopted. On the subject of *incised wounds*, our author properly condemns the practice, still followed by the French surgeons, of stuffing sabre wounds with dry lint, instead of bringing their surfaces together with adhesive straps, or the stitch. He, however, admits that many of our surgeons err in "applying too much adhesive plaister," leaving no interstices for the escape of pus. The *punctured wounds* were inflicted chiefly with the lance and bayonet. The former, from cutting deeper, is perhaps more deadly in its first effects; but those of the latter are attended with more severe constitutional symptoms. Very few of these wounds, at the period under consideration, were attended with tetanus; and where it did occur, it was of a mild character. Dr. Thomson notices Larrey's application of the actual cautery in such cases; but, from the marvellous results detailed by that writer, he observes, "but for M. Larrey's great authority as a military surgeon, one would have difficulty in giving credit to them." His remarks on *contused and lacerated wounds*, tend justly to throw great discredit on the pretended effects ascribed to the wind of a cannon ball. "In one case the point of the nose was carried off by a cannon ball, without respiration being at all affected!" This section contains, also, some excellent remarks on the well-known fact, "that a limb may be torn or shot off, even near to the trunk of the body, and yet little, if any, hæmorrhage be produced." In the observations on *gun-shot wounds*, the most remarkable fact noticed, is, the splitting of a ball on striking against the sharp edge of a bone, and each of the pieces taking a different direction. The most frequent examples of this circumstance, which our authors saw, "were those which were produced by balls striking against the spherical surface of the cranium;" in which case one portion of the ball generally enters the cranium, "while the other either remains without, or passes over its external surface." The Professor conceives that modern surgeons, in discontinuing the indiscriminate rule of their predecessors to dilate in every instance of a gun shot, are perhaps passing too much into the opposite extreme. He recommends that the Medical Board would give out a prize essay on this subject, "and proposes the soundness of Mr. Hunter's opinions as the basis of the discussion." He conceives the greater part of the deaths which occur on the field of battle, arise from *hæmorrhage.* In Belgium, in a greater number of cases, secondary hæmorrhage occurred before the twentieth day, and arose rather from sloughing and ulceration, depending on the hospital gangrene, and other causes, than "from the forcible opening of their extremities." It is added, however, that

> "in by far the greater number of instances it seemed to me to proceed from the increased determination of blood into the capillary vessels upon the surfaces of the wounds; and this hæmorrhagic effort occurred particularly in those who had obtained, either by the mistaken kindness of their friends, or by their own entreaties, too liberal an allowance of wine and animal food."—p. 48.

In detailing the effects resulting from wounds of the head, our author observes, that he saw "very little of the erysipelas, which is so common an attendant upon wounds of the head:" and he also remarked, that in cases in which portions of the cerebrum were exposed by sabre wounds, no tendency to protrusion was observed, although fungus in some cases appeared, and was attended by all the symptoms of compressed brain;—slow pulse, stupor, dilated pupils, slight strabismus, and distortion of the mouth. When paralysis of the extremities followed sabre wounds on the head, in every instance the paralysis manifested itself on the side opposite to that on which the injury existed: thus "a wound of the right parietal bone by a musket ball, was followed by palsy of the left arm and leg." Contusion of the brain from balls often presented remarkable changes in the state of the pulse: the pupils were sometimes dilated; and in one case that of the right eye was dilated, while the left remained unaltered.' Very few instances of that secondary inflammation, which is diffused over the surface of the brain and its membranes, and which is well described in the writings of Deare and Schmucker, occurred in Belgium; a circumstance which Dr. Thomson justly ascribes to the great pains which were taken by the military surgeons to enforce "the strictest rules of the antiphlogistic regimen." Convulsions in some cases followed depressions of portions of the cranium; but did not, in every instance, prove fatal.

" In one singular case, in which a ball, entering behind the right temple, and passing backwards and downwards, had fractured the bones in its passage, the ball appeared to be lodged in the surface of the brain, over the tentorium cerebelli, from which place it was extracted on the seventeenth day after the infliction of the injury. No bad symptom had manifested itself previously to the operation; and this man recovered under the strictest antiphlogistic regimen, with little or no constitutional derangement, except a slight tendency to inflammatory fever, which, upon one occasion, was induced by an incautious allowance of a small quantity of wine and animal food." —p. 61.

In treating of *wounds of the face*, some curious instances of the effects of balls passing near and through the orbits are detailed. In one case, " in which the ball had entered the right eye, and had passed out midway between the left eye and ear, the' left eye was affected with amaurosis." It appears singular, also, that balls entering the ear, and destroying the bones of the external meatus and the mastoid process, did not always injure the brain. Many instances of *wounds of the neck* occurred; " but in none of the cases," observes our author, " had the carotid artery, or [the] internal jugular vein, been opened:" yet, from the extent of secondary hæmorrhage in two instances, " it was deemed necessary to lay bare and tie the trunk of the carotid artery." In one of them the trachea was wounded, and the patient died of suffocation, from matter passing through the wound of the trachea into the bronchi; the other recovered. Wounds of the larynx passed into a state resembling consumption; hence wounds in this part are always, in their future consequences, to be regarded as dangerous accidents. In neck wounds, in which some of the cervical arteries were wounded, " paralysis of the shoulder, arm, fore-arm, and fingers was enduced:" but " deep sabre wounds, which had been inflicted on the back and lateral parts of the neck, though some of them were so deep as to allow the pulsations of the vertebral arteries to be seen," were not followed by paralysis. These wounds, however, were accompanied with much feebleness of the lower extremities. *Wounds of the chest*, penetrating the substance of the lungs, were generally more dangerous when inflicted by the lance, than by musket balls: although, when they did not prove fatal, the lance wounds were readily healed. The hæmorrhages from the external wounds were easily suppressed by shutting up " the external orifices of the wounds with compresses and a proper bandage;" and no bad consequences followed this practice; and in none of the injuries of the chest was the " discolouration of the loins from the infiltration of blood, which has been described by M. Valentin," observed. On the subject of this section, the Professor remarks,

> "What quantity of blood can be extravasated into the sac of the pleura, after the external wounds are closed, what quantity may be absorbed from that sac, what are the best diagnostic symptoms of the extravasation of blood, and by what means it may most safely and easily be evacuated, are all points concerning which we stand much in need of information."—p. 85.

Notwithstanding the great variety of wounds of the chest, very few of emphysema presented themselves. In some cases, in which pus collected from pleuritic inflammation occurring from wounds of the chest, as the matter was discharged with great difficulty, our author properly suggests the propriety of a counter opening on the lower and lateral parts of the chest; and hints that the use of tents and tubes in such cases, "is a point deserving of more attention than it appears hitherto to have received from military surgeons." In one case only did "a protrusion of a portion of the lungs" through a wound in the chest take place; and in it, notwithstanding the adhesion of the protruding portion had cut off all communication of the external air with the cavity of the chest, "yet the patient suffered much from repeated attacks of inflammation." None of the cases of *wounds of the diaphragm* were attended with risus sardonicus, or convulsive motions of the chest, as might have been expected.

Many instances of *wounds of the parietes of the abdomen* were observed. The remarkable character of the following induces us to extract it:

> "A man was struck by the splinter of a shell on the right buttock, a little below and behind the spinous process of the ilium. A hardness and swelling in this case took place over the right hypochondrium, and right side of the epigastric region. The tumefaction subsiding, a large body was felt between the extremities of the right false ribs and the navel. This body was cut down upon, and a piece of shell, weighing nine ounces and a half, was extracted on the twenty-fifth day after the wound had been received. This body seemed to have occasioned only a very slight degree of peritoneal inflammation."—p. 96.

The chief danger in these cases arises from the communication of inflammation to the peritoneum; and hence the necessity of the strictest adherence to this antiphlogistic regimen in every wound of the parietes of the abdomen. Twelve cases of *wounds of the liver* are noticed: in none of them, however, was the bile "either from the liver or the gall-bladder, effused into the cavity of the abdomen:" but when a wound of the liver was combined with one of the thorax, bile was discharged through the latter. "In some instances the bilious discharge from wounds of the liver was extremely glutinous;" but in other instances it was purulent, serous, or mixed with coagulated blood. Two patients were seen recovering from *wounds of the stomach*; one made by a lance, the other by a musket ball. In both cases the contents of the stomach had come through the wounds for some days. Our author considers that, in cases of intestines opened by wounds or by sphacelus succeeding to strangulation, the more the process of re-union is left to Nature, the greater will be the chance of ultimate recovery. Copious blood-letting and the antiphlogistic treatment, however, are requisite "in the cure of all injuries of the viscera contained in the cavity of the abdomen." No fewer than fourteen cases of recovery from gun-shot *wounds of the bladder* were noticed by our travellers. In three of them the balls were lodged: but it was remarkable that, in none of the cases they saw, "had the urine found its way into the cavity of the abdomen." Several *wounds of the penis and testes* also came under their observation.

The next division of the volume relates to *wounds of the loins and pelvis.* Some of these healed kindly; but in others abscesses formed, and the matter under muscles and fasciæ passed to a considerable distance from the original wounds. In several of the cases of gun-shot wounds across the loins, and through the pelvis, complete or partial paralysis of the lower extremities was produced: but not in all at the moment of receiving the injury. Both the extremities were seldom affected: and death from secondary hæmorrhage, which was supposed to have proceeded "from branches of the gluteal arteries, occurred only in two cases."

It may be readily conceived that *wounds of the inferior extremities* were very numerous. The most interesting of these were from balls passing through the region of the hip-joint, "or lodged in or near to that cavity." In some of these a discharge of synovia had taken place, shewing decidedly that the capsule had been opened by the balls; but where this discharge did not appear, "it was doubtful whether the capsule had been penetrated, or the joint itself much injured." *Wounds of the thighs* were common and troublesome. "Several cases had occurred, in which, "owing to the secondary hæmorrhage," it became necessary to tie the superficial femoral artery. In some of these, gangrene of the foot and leg supervened. Many of the wounds of the thigh were complicated with fractures of the thigh bone; cases always of a severe nature, and often dangerous. In these wounds counter openings were found extremely beneficial, as the matter was disposed to accumulate round the fractured extremities, and destroy the cellular matter which connected the muscles together. Our author speaks favourably of the apparatus intended for permanent extension, to prevent the shortening and distension of the limb; but he admits the difficulty, in applying it to practice, "to find points of support, upon which to continue with effect, and at the same time without injury, the extending and counter-extending powers." In this division many useful remarks are added on wounds of the *knee-joint, the leg,* and *the ankle and foot.*

The history of the different kinds of wounds concludes with wounds of the *superior extremities.* In examining of those of the shoulder, the tendency of this part to "fall inwards, forwards, and a little downwards" in fractures of the clavicle, "was very apparent in the wounds of this bone." In some of the shoulder wounds, "paralysis of the arm had been immediately produced;" but in one case, "in which the ball passed through the lower and outer part of the axilla, palsy did not occur." Fractures of the acromion were in general attended with no other bad consequence "than the cure being rendered tedious by the exfoliations which took place." In several cases, "abscesses had formed under the deltoid muscle, in consequence of balls having passed across the arm through the inner surface of that muscle. The wounds of the *elbow joint* were very troublesome, owing to the occurrence of "great swelling, pain, and tension of the joint, with œdema of the arm, fore arm, and hand;" and many of these cases, on account of the formation of abscesses, "and the exposure of the ends of the bones, would require amputation." The wounds of the wrist, palm of the hand, and metacarpal bones, were also troublesome, as may be readily supposed, from the structure of the parts, and from the severe local and constitutional symptoms with which they were accompanied.

Our author has written very fully on the subject of *Amputation;* and has in particular entered deeply into the consideration of the question as to the proper period for operating in gun-shot wounds. This part of the volume displays altogether much reading and great research; and proves, that at a very early period, some of those proceedings which are now regarded as the most important improvements in modern surgery, were suggested. Du Chesne, for example, who is the first writer on military surgery, directs amputation to be performed "before inflammation and other constitutional symptoms shall have supervened." On this question every authority of any consequence, from the time of Wiseman to the present period, is brought forward; and an abstract of their opinions given by Dr. Thomson. We think it unnecessary to follow him in this career; and shall therefore content ourselves with laying the conclusions he has drawn, and his own opinions, before our readers, which cannot be so well done as in his own words:

"The evidence in favour of the advantages of immediate amputation, appears to me to have always preponderated over that for delay; but this preponderance has of late been evinced in the clearest and most satisfactory manner by the results obtained in the practice of the French and English military surgeons. A careful examination of the few statements which have been given in proof of the advantages supposed to arise from delayed amputation, cannot fail, I conceive, to convince every impartial enquirer that these statements have had their origin in inaccurate observation, and in an imperfect view of the subject to which they relate. None of those who have made them, seem to have been sufficiently aware of the great difference which exists between the results of amputation performed before the commencement of inflammation and fever, and those which occur from amputation performed after the supervention of these states. Accordingly, the greater part of the objections which have been stated to immediate amputation, appears to have been founded on the unsuccessful results of operations performed upon the second, third, fourth, and even fifth day of an injury, at a period when inflammation and fever must necessarily have commenced. It is this inaccuracy of observation also which seems to have given rise to the opinion so often maintained, that a state of health and vigour is a state unfavourable to amputation; an opinion which has been amply refuted by the late experience of army surgeons, and the truth of which indeed had been previously disproved by the very great success which, in most situations, has been known to attend the long-established practice of immediate amputation in the British navy."—p. 225.

In the actions of the 16th and 18th of June, our author thinks "many might have been benefitted by early amputation," and the majority of the limbs which had been preserved, would require "that operation at some future period." The number of amputations in Belgium amounted to five hundred; more than one-third of which were performed at an early period; and the advantages are stated to have been so evident, "as to occasion many regrets among the army surgeons, that primary amputation had not been more frequently performed." The consideration of this subject in detail, occupies the remaining pages of the volume; a few of which however are dedicated to the examination of the advantages to be derived from amputation at the hip joint. The positive necessity for the immediate performance of this serious operation "in those instances in which a bullet has opened the capsule of the hip joint, or wounded the neck of the thigh bone without fracturing it, must, our author conceives, be left for future experience to determine." With regard to secondary amputation at this joint, he thinks it may be necessary in the following cases:

"1. In the cases already mentioned, when, from any cause the primary operation has been deferred or neglected, and the patient has survived the inflammatory attack.

"2. In cases of slight injuries of the joints, which either had not been perceived at first, or in which an attempt at saving the limb had been made, but in which, disease of the joint and hectic fever have supervened; or in wounds in the vicinity of the joint, from which disease has been communicated to its cavity.

"3. In fractures in the course of the thigh bone, or in contusion of that bone in which incurable disease has extended along the thigh to the joint.

"And, 4. In cases of dangerous hæmorrhage with ulceration or sloughing of soft parts, or of incurable disease of the bone, supervening to amputation performed high in the thigh."—p. 278.

PART III.

SELECTIONS.

Some Observations on the Structure of the Prostate Gland. By Mr. Shaw, Demonstrator of Anatomy in Windmill Street.

The anatomy and diseases of the prostate gland have long been favourite points of discussion; but of late years they have excited greater interest. For this we are indebted to Sir Everard Home, who, by his book on Diseases of the Prostate, has not only shewn the true principles of practice, but by his description of the morbid anatomy of the gland, has incited surgeons to the further investigation of its natural and morbid structure. Trusting to Sir Everard Home's love of science, and observing that in most of the papers which he has given to the public, he seems desirous of bringing forward the younger members of his profession; I have, without fear of appearing presumptuous, given an account of some dissections which I have made of the diseased prostate; in the course of which I have remarked facts which induce me to vary in some points from the usual description of the third lobe.

In the demonstration of anatomy which I have given for some years to the students in Windmill Street, I have always shewn that part of the prostate, which is called the third lobe; and in not less than two hundred dissections which I have made of the bladder, I have never failed to find the same part, by following the description of the dissection, given by Sir Everard Home's book on Diseases of the Prostate. The situation and form of the three distinct portions or lobes of the healthy adult gland are there so accurately described, that were I to describe the parts from the most accurate dissection, it would appear only as a transcript of the passage.

In the Medico-Chirurgical Transactions of 1812, there is an account given by Mr. Bell of the different opinions of the ancient and modern anatomists on the diseases of the prostate; and particularly of that projection of a part of the gland into the bladder, which produces a valvular obstruction to the passage of the urine. In the investigations of this subject, Mr. Bell discovered that the bodies commonly called corpora carnosa, which proceed from the mouths of the ureters, were small muscles, and that they were inserted by a common tendon into the prostate gland.

In the same paper he gives an ingenious theory, to account for the projection of a particular portion of the prostate into the bladder. In every case which I have examined, of that which is called disease of the third lobe, I have found his idea to be correct; that is to say, the portion of the gland to which the muscles of the ureters are attached, has been the part from which the projecting tumour arose. Though I agree with him in his theory, which I am sure every one who examines his collection in Windmill Street must also do, still there is one part of his essay which I think incorrect. I mean his description of the insertion of the muscles; but before I notice this more particularly, I shall state the circumstances which gave origin to my more immediate investigation of this subject.

About three years ago, I found a diseased bladder, the appearance of which led me to form the idea that the disease of the prostate, which forms a tumour within the bladder, was not always produced by the enlargement of the third lobe; but from the manner in which the preparation was mangled by a young student, who not only divided the pelvis, but also the prostate, with the saw, I was unable to judge accurately of the state of the third lobe; however it was evidently a portion of the gland anterior to the third lobe that projected into the bladder. I preserved the parts, and the preparation is now in the section of diseased prostates in Mr. Bell's Museum. The next opportunity I had of examining this disease, was in a subject where the projection of a part of the prostate into the bladder was in its first stage. The patient had long laboured under fistula in ano, of a very complicated nature; he was worn out with repeated suppurations, and was at length carried off by diarrhœa. On opening his bladder, I saw the muscles of the ureters particularly strong and very distinct from the other muscular fibres of the bladder; indeed these were not unusually strong. At the point of the prostate to which these muscles were attached, I found a projection of the size of a bean, evidently the commencement of that tumour which has been called disease of the third lobe. I made a careful dissection of all the parts round the neck of the bladder; and on the back part, I made the same dissection as that described by Sir

Everard Home, in his description of the third lobe. I removed the vesiculæ seminales and ducts of the testicle, and though there was an evident projection of part of the gland into the inside of the bladder, still that part which is called the third lobe, was as distinct as it is found in a subject the most favourable for the dissection.

There are two points shewn in this preparation. 1. The commencement of a valvular obstruction to the urine, produced by the projection of a part of the prostate into the bladder, which part is anterior to the third lobe. 2. That the muscles of the ureters are not inserted into the third lobe, but into that part of the prostate which, when diseased, projects into the bladder. In the works of some of the best anatomists, the muscles of the ureters are described as two cartilaginous bodies, running from the mouths of the ureters towards the urethra, and terminating in the caput galinaginis. On a superficial examination, they present very much this appearance; but Mr. Bell has shewn that they are muscular, and that they are attached by a tendinous band to the substance of the prostate. He is incorrect, however, in describing them as attached to the third lobe. This is proved by the preparation I have just described, which is at the same time an example of the truth of his theory, viz. that this particular enlargement is produced by the action of the muscles of the ureters.

I have very lately dissected another diseased prostate, which, though differing very much from the two I have already mentioned, is, notwithstanding, illustrative of the subject. The gland was taken from a man sixty years of age. It is enlarged, the opening of the urethra is of great size, and the bladder does not appear to have suffered from dilatation; there are three distinct projections from the prostate into the bladder, but there is no projection in the usual place: the muscles of the ureters are not increased in strength. On the back part, I perceive the third lobe slightly enlarged, and projecting downwards.

From these dissections, the following conclusions may be drawn:—First, that, in many cases the enlarged portion of the protate, which projects into the bladder, is not the third lobe, but a more anterior part of the gland.

In the second place, it appears, that where there is a valvular projection into the bladder, the muscles of the ureters are found to be inserted at the root of the tumour.

Thirdly. It appears that whenever there is this valvular projection from the prostate, the muscles of the ureters are found enlarged.

It will perhaps be admitted, as in part a corroboration of what I have stated, that I cannot find in any book the description of a dissection of the back part of the prostate, where there was a valvular projection into the bladder; nor have I seen any drawing of a perpendicular section of the diseased gland, which could give a correct idea of the relation between the third lobe and the portion which projects into the bladder. —*Bell's Surgical Observations, Part II.*

PART IV.

FOREIGN MEDICAL SCIENCE AND LITERATURE.

ANATOMY, PHYSIOLOGY, PRACTICE OF MEDICINE, AND SURGERY.

I.—We have much satisfaction in being able to lay before our readers a continuation of Dr. Granville's correspondence "On the Present State and Progress of Medicine in France."

LETTER III.

"The Faculty of Medicine of Paris has just held their annual public meeting for the distribution of premiums to the éleves of the *Ecole Practique*[*]. An immense crowd of students, and other individuals, attracted by mere curiosity, attended this solemn ceremony; calculated, beyond doubt, to produce the best possible effects on all the medical pupils present, and to serve as a stimulus to their future exertions. There were also present, the Members of the Royal Committee of Public Instruction, (amongst whom we recognized M. Cuvier,) the Inspector-General of the University of Paris, the Professors of the Faculty, and the Members of the Society of the School of Medicine.

"Professor Dumeril, as president, addressed the meeting in a very neat, appropriate, and impressive speech. He began by retracing the effects of that fatal influence, which the revolutionary tide of French politics had exerted on all the public establishments, and, amongst others, on the institutions for medical instruction; by suppressing the Academies and the Faculties, abolishing the colleges and the universities, and by proscribing or persecuting their most distinguished members and their professors. 'Mais,' said the orator, 'epouvantés

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[*] See Cross's *Sketches of the Medical Schools at Paris.* Lond. 1815.

bientôt par la Vandalisme, eclairés par une triste et trop tardive experience, ceux entre les mains des quels le pouvoir etait tombé pour quelques jours, aperçurent la profondeur du precipice dans le quel on entrenait un peuple eminemment distingué par son genié, et ses decouvertes dans les sciences, célèbre entre toutes les nations par son gôut et son ardent amour pour les arts.' The consequences of this happy change were soon felt by those who applied themselves to the study of the healing art. Prepared by a preliminary education, for which successive governments multiplied the necessary establishments, those who destined themselves to the medical profession soon found an university, in which all that talent, experience, and reputation, tend to render respectable, had been accumulated for their instruction. Their application met with encouragement; their zeal found guides to direct it through its proper channel; and their exertions were finally crowned by the highest honours that medicine can bestow, by the friendship of their masters, and the approving acclamations of the surrounding crowd of their admiring countrymen and fellow students.

This mode of addressing the feelings of the audience, has the best possible effect on this side of the water; but I question very much whether such an emphatic style would be listened to with equal patience or admiration in England. M. Dumeril seemed to become progressively more eloquent as he advanced through the mazes of his peroration. 'Puis-je,' exclaimed he, 'ne pas me laisser pénétrer d'un noble orgueil, en voyant tous les jours cet amphithéâtre devenir pour nous ce qu' etait pour l'ancien monde, l'Ecole de la Ville de Ptolomée; et confondus parmi nos disciples, sans distinction de rangs, ni de pays; ne formant pour ainsi dire qu'une seule et même famille, des fils d'Albion et des fils de l'Iberie, des jeunes gens partis des bords du Gange, partis des rives de la Neva, ou deputés par les deux Ameriques[*]! Puis-je ne pas sentir mon imagination s'echauffer, et mon cœur Français palpiter, en pensant que, lorsqu'ils retourneront dans leur patrie, ces éleves emporteront avec les connaissances que nous nous sommes efforcés de leur donner, quelques souvenirs des maitres auxquels ils le doivent!'

"Again, while speaking of the best mode of pursuing medical studies, Professor Dumeril inculcated the necessity of anatomical and physiological knowledge in the following strain: 'soulevez d'abord le voile, que la nature a jeté sur nôtre organization; etudiez successivement toutes les pieces de cet charpente solide qui donne au corps sa forme, qui permet et l'unite ses movemens. Isolez, pour mieux les connaitre, ces leviers, ces ressorts, et ces puissances nombreuses, qui s'y fixent pour leur transmettre les ordres de la volonté; deroulez ses canaux tortieux parcourus par un fluide reparateur; poursuivez ces fibres sensibles et delieés, qui etablissent des rapports si intimes entre nous, et les corps qui nous environnent, avec une rapidité superieure à celle de l'eclair: analysez ces instrumens d'optique, de chimie, d'acoustique, qui procurent toutes les sensations; voyez ensuite ces organes l'animer sous l'influence de la vie, executer une serie de fonctions plus merveilleuse les unes que les autres, et attachées entre elles par un bien admirable quoique invisible.' 'C'est dans le livre de la mort que l'on apprend à lire l'histoire de la vie.' Inflated as this would appear to the audience collected in the small amphitheatre of our Royal College of Surgeons, I can assure you the delivery of M. Dumeril's oration was received with repeated bursts of applause.

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[*] "I have in fact ascertained, that amongst 2000 students, or thereabout, there are three Englishmen, a Russian, and two natives of the East Indies!

"At the conclusion of the speech, Baron Desgenettes named the successful candidates for the premiums of the second class; none having deserved those of the first. The gold and silver medals, founded by Corvisart in favour of the 'éleves de la clinique interne,' were also distributed on this occasion.

"It is not possible to lay too great a stress on the superior mode of electing a professor to a public chair in a medical university as practised in France. A fresh instance of the strict discrimination exercised on such occasions has recently occurred, in consequence of the chair of *Clinique Externe* becoming vacant at Montpellier. A *concours* of professional men, who may be desirous of becoming candidates for the chair in question, has been advertised for several weeks past; and the conditions annexed to the public notice are such as ought to be adopted for the election of our own professors and medical officers at the public institutions, instead of the present mode of securing numbers by a personal low bow to the governors, or a timely application to a patron or a chancellor. By these conditions, the candidate is to deposit at the office of the secretary of the Faculty of Medicine, besides other qualifications, 1st, a certificate of his being thirty years of age; 2dly, a certificate of good morals from the Regent of the university at which he studied; 3ly, his diploma; 4ly, a certificate from three of the best reputed medical persons in the metropolis, declaring that the candidate, since his admission to the honour of the doctorship, has never advertised or puffed either himself or any remedy, directly or indirectly, into notice: and finally, a declaration from the constituted authorities of the place in which he resides, that he has practised as a surgeon for the space of six years; or, that he has been surgeon in chief to an hospital of importance. Amongst all the candidates who shall then have proved their qualifications, the Faculty of Montpellier selects two candidates, and that of Paris two more; from which four, the Committee of Public Instruction select and name the professor to the vacant chair.

"Accounts from some of the departments mention, that the most fatal effects had been produced on several individuals who had eaten bread made of rye *ergoté*. Dysentery, and a gangrenous state of the intestines, have followed the use of such bread, and in many cases it has produced death; but the details are as yet too inaccurate for us to judge of the extent of the mischief thus produced, and how far it has been rightly ascribed to the diseased grain. I must here remind the medical profession of the valuable comparative experiments on the *ergot* made by Vauquelin on a recent occasion, and which I inserted in the fourth number of the Journal of Science and the Arts; and as the diseased grain has been recommended by the American physicians and in the *Diction. des Sciences Medicales* as a powerful emmenagogue, it would be desirable that some appropriate experiments should be instituted to ascertain the truth of this assertion.

"A very singular case of rapid dissolution, in consequence of an apparent cholic, has taken place within these few days, which caused a desire to ascertain the origin of the disease. On dissection, it was found that a portion of the ileum, a foot in length, had been strongly knotted by an unnatural appendix rising from the free border of the same intestine. This being twisted round the intestine, the part below the ligature was in a complete state of gangrene, and full of fecal matter. The appendix had, of course, existed *ab origine;* but how it could have got round the intestine in the manner described, remains to be accounted for only by conjecture. The case is perfectly authentic, and the pathological preparation with the description has been deposited in the cabinet of the Ecole.

"In one of my early visits at the Hopital St. Louis, Dr. Breschet* shewed me a number of epileptic patients, who had taken nitrate of silver for a length of time with various success; but none exhibiting the least discolouration of the skin, as had occurred in England and at Geneva. I particularly noticed a fine youth, in whom the paroxysm had been rendered very slight and fewer in number in a given time, almost immediately after the first administration of the medicine. He had afterwards been cured altogether; but the disease having originated with him in a detestable practice, which had produced a tabes dorsalis, the paroxysms had returned some time after he had left the hospital, from a return to his former habits. A young girl, strong and healthy, who, I was informed, had been frightened into epileptic fits, that never quitted her afterwards, by being forced to witness the violation of her mother by some Cossack soldiers, had been in vain submitted to the operation of the same remedy. In this case I think the intellectual to be equally disordered with the animal life; and the affection of the latter to depend on that of the former, which no nitrate of silver will ever be able to reach.

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* We apprehend our Correspondent should have said Dr. Biot.

" The effects of the *Nux vomica* in partial paralysis are certainly very striking. I mentioned to you a singular case in my last, to which I have nothing to add now. It is given in the form of an alcoholic extract, from one to eight grains, beginning gradually. Dr. Majendie tells me he was the first to propose the use of this remedy in hemiplegia.

" Mons. Pelletier and Dr. Majendie are now engaged in a series of experiments on Ipecacuanha, undertaken with a view to ascertain in which of its numerous constituents the emetic power resides. Many curious facts, I am told, have come to light in the course cf their researches, the result of which will be published in a short time. A work on bark, by a pharmacien of some celebrity, will also shortly appear; and the medical as well as the chemical world will receive with gratitude a memoir on the alkaline and metallic sulphurets, on which Vauquelin has been long engaged.

" Dr. Breschet, whom I have had, and will often have, occasion to mention, has been for some time engaged with a Mons. Villermay, on some experiments, made with a view to discover the nature of the *callus* formed in cases of fractured bones. The experiments are on a large scale. A number of dogs of all ages and species, well kept, and well fed, serve for this purpose. One of the legs of the animal being fractured, it is again set, and the day of the operation, as well as the age of the animal, noted in a register. This is repeated on other dogs at different intervals. When the bone is supposed to be again re-united, the limb is amputated, and another fractured; thus multiplying the number of pieces presenting the bony *callus*, of all forms, and of new or old formation. Some of these preparations are injected, others analyzed chemically, and all examined in such a way, that an immense number of facts and observations, illustrative of the production of bony substances, will soon be laid before the public.

" In surgical practice, since my last communication, I have ascertained the important fact, that the mode of combating erythematous inflammation, by means of blisters covering the affected surface, as recommended by Dupuytren, is strenuously insisted upon and practised by him; having lately seen one of his patients perfectly cured, and that in a very short time, by the method in question. In the case I allude to, the individual had sustained a considerable injury of the head, which produced, amongst other symptoms, an erythematous inflammation, of considerable extent, on the back. To this part Dupuytren ordered the application of a blister. The next day the inflammation had disappeared from thence, and shewed itself on the chest, occupying a similar space. Here too the disease was attacked with the same arms, when in too days it took refuge on the left shoulder; but being closely pursued to its retreat, it finally left the patient, who has not since felt any inconvenience resulting from such mode of treatment.

" Another improvement, in my opinion, made by the same eminent surgeon, is the endeavour to render the injudicious application of poultices, as hitherto used every where in France, less frequent. In cases of fracture, producing œdematous swellings and infiltration of the part, Dupuytren, instead of losing time with the application of poultices, strongly recommends a regular, and every where equable compression, by means of an appropriate dressing, which never fails to produce the most beneficial results.

" In a consultation lately held on a woman presenting the anterior lip of the *os tincæ* in a carcinomatous state; the same surgeon proposed the amputation of the part, which was objected to by the consulting surgeons, and by Dubois in particular. The patient is now lying in a hopeless state at the Hotel Dieu. The man on whom the ligature of the internal iliac in the abdomen was applied by Dupuytren, is now completely recovered. The tumour has entirely diappeared; there is no longer the unnatural pulsation which I had occasion to mention in my last, and the limb on the side on which the operation had been performed, has preserved its natural size, and recovered its natural temperature. The surgeon, however, was obliged to remove the patient from the hospital at an early period, and to keep him at a private house, with all the comforts of life, during his cure and convalescence, which he did at his own expence.

" A case of diseased uterus, ascertained on dissection, has occurred to me lately, which may tend to throw some light on the affections of that viscus, to the study of which I have particularly directed my attention, owing to the many opportunities I here enjoy of acquiring a considerable practice in a short time. I was dissecting a woman aged about 40, who had died of an inflammatory disease, when with a view of following up certain experiments, on which I am at present engaged, having occasion to introduce my finger into the neck of the uterus, while my left hand, placed on the hypogastric region, endeavoured to keep the womb in a steady situation, I felt an unnatural hardness in that viscus that made me suspect the presence of a germen, and excited a desire of ascertaining the truth of my conjecture; I consequently made an incision into the abdomen, and brought away the womb with all its appendages. On feeling the viscus externally, I distinctly perceived an oblong and solid body, over which I could easily make the anterior and posterior faces of the uterus slide, but which did not seem itself moveable. I slit open the uterus, and found a solid fleshy vegetation, the size of the thumb of an adult, adhering to the fundus, and extending its ramifications, laterally, to the internal openings of the fallopian tubes, so as to obstruct them. Anxious to preserve this pathological specimen, I put it into some strong spirits of wine, when, to my great astonishment, two days afterwards, I found the womb without any excrescence whatever adhering to it, the part on which it had existed being black, while the rest of the preparation, as is common with animal substances plunged in alcohol, had become white. The tumour had therefore disappeared by the action of the alcohol, or in other words had been dissolved, as I afterwards ascertained by a chemical examination of the solution. This case suggests several appropriate considerations, which it would be needless to enumerate here; but I cannot help noticing the probability that arises from it, that alcoholic injections might be employed with advantage in many cases of polypi, cancers, and tumours of the uterus and the vagina.

" A singular instance of a monstrous fœtus, which I have lately witnessed, now absorbs the attention of the medical profession in Paris. This is a child born at the Hospice de la Maternité last week, at its full term, having the vertebral column bent completely backwards, at the commencement of the lumbar vertebræ, the feet corresponding to the back of the shoulders. There was no abdominal parietes; but the membranes *chorion* and *amnios*, inserted, or rather forming a continuation of the common integuments, above and below the abdominal region, covered that cavity, leaving by their transparency the intestinal circumvolution open to view. On carefully opening the membranes it was discovered, that the placenta adhered on the fœtal side to the lobes of the liver, by means of a single artery and a vein, forming an incomplete umbilical chord, and penetrating deeply into the substance of that viscus. On a further examination we observed, that there existed but one kidney, namely, that of the left side; on the right side there being a very large *capsula sub-renalis* only, and no kidney. The womb, for it was a female subject, had an inverted form, and the fallopian tube of the right side was in its perfect state; none existed on the opposite side. The vagina was completely imperforate, and a single ureter opened into the bladder. At the lower extremity of that part of the *rachis* which had remained straight, a spina bifida was discovered, in the tumour of which, however, no fluid whatever was found. On endeavouring to trace the nervous arrangement on the right side, from the tumour downwards, not the smallest vestige of any nerve could be perceived. But what completed the astonishment which such a phenomenon had naturally created in us, was the absolute absence of muscular fibres in the right thigh and leg, and the substitution of a sort of granular adipose substance in lieu of them, without even the slightest delineation of the muscular arrangement being visible throughout the limb; yet this latter had, both as to size and colour, the external appearance of the other limb, which was, in every respect healthy, and such as may be imagined to belong to a fœtus at its full term. Dr. Breschet, who made the preparation, informed me, that the person who had delivered the mother had assured him that the child had come into the world alive, and even lived some minutes afterwards. My friend Chevreul has undertaken to analyze the fat found in the limb of the right side, and I will take care to inform you of the result of his operations on this subject.

" A singular occurrence, in certain respects interesting to the physiologist, was related at the last meeting of the Society of the School of Medicine: a poor woman had, by some accident, received a sharp fragment of a sheet of copper into the eye, where it penetrated the cornea. Every means employed to extract it proving abortive, the inflammation which ensued was great and alarming, and was combated by the usual topical applications, which, however, did not impede the considerable impairment of sight that followed. Dubois being consulted, recommended patience and a continuation of the remedies already adopted. But the fragment, instead of emerging from its place, seemed progressively to penetrate deeper into the eye; and, indeed, in a few days, it was seen to pass altogether through the cornea into the iris, from whence it plunged into the anterior chamber and disappeared, leaving the woman with her wonted good sight, and in perfect health.

" From the country a Monsieur Patissier writes, that he tried, in vain, to subdue a case of tetanus, caused by a pricking of the great toe, between the second and third phalanges, by means of a nail, which had previously pierced the shoe. The patient died, after five days, of the most excruciating agonies; when on dissection it was found that the *membranes lining the cavity of the spine, and the internal membranes of the heart, presented a highly inflammatory aspect.*

" Dr. Orfila is now preparing for the press a system of medical chemistry, of which, if I am to judge from the extracts he has been kind enough to communicate to me, will form a standard work for the medical student.

"I have just received letters from Italy, in which I find one or two subjects connected with medical science, which the English public may not dislike to learn.

"The treatment of hydrophobic patients having lately attracted much of the attention of the Italian physicians, in consequence of the frequent occurrence of that disease, various are the remedies that have been proposed; but two amongst them seem to have most succeeded. In Calabria Dr. Scuderi proposes the internal use and external application of sulphuric acid, with which he pretends to have effected several cures. Signor Brugnatelli, on the contrary, has administered a solution of chlorine in water internally, with which the wounds are also washed. Four well-authenticated cases of perfect cure, and two in which the developement of the disease had been impeded, are recorded. Bleeding, it is stated, has constantly proved fatal, or useless. This subject deserves consideration.

"You must recollect the experiments of Dr. Mangili, on the bites of vipers, for which he has proposed the carbonate of ammonia as a specific remedy. A Dr. Moro writes to Mangili, that having lately had occasion to follow his advice in two instances, he completely succeeded in saving the patients.

"Dr. Spedalieri has observed a fresh instance of perforation of the stomach, without the effect of poison. A case of *trichiasis*, consisting in a tumour of adipose matter, implanted partly on the sclerotica and partly in the lucid cornea, with the growth of hair upon it, has been cured by a surgeon at Naples, by extirpation, which did not injure, materially, the sight of the affected eye.

"This letter has already outstepped the limits I had proposed to myself at the commencement of my correspondence; but the great lapse of time between my last and the present communication, has necessarily furnished me with more ample materials, none of which I thought proper to suppress.

Your's most truly,

Paris, January, 1817. A. B. GRANVILLE.

II.—*Account of a mechanical Cure of an Intermittent Fever; by* Professor Chladni.

"About a week after my quitting Wittenberg, then about to be besieged, I was seized with a tertian fever, probably the consequence of my having caught cold, and of the privations I suffered. The attacks of the fever regularly occurred every other day at nine A. M.; the cold fit commonly lasted four or five hours, attended with head-ache and heaviness of limbs. Medical aid was not at hand. At last, on the sixth attack of the fever, I recollected having read, perhaps more than twenty years ago, an essay in some medical journal, where mention was made of the cure of an intermittent fever by putting ligatures to the extremities; in which it was remarked, that only the binding up a part of one extremity, for instance one finger, when the cold fit was coming on, would be sufficient to stop it.

" I resolved, of course, directly to apply this process, as a physical experiment upon myself. Therefore, a quarter of an hour after the cold fit came on, for the idea had not occurred to me before, I tied the upper arms by means of a stocking as tight as I could bear it without suffering too great inconvenience, and then sat down, leaning my head, which was very heavy and painful, upon the table, in quiet expectation of what was to follow. Scarcely eight minutes had elapsed, when the cold fit, which, without this process, might as before have lasted some hours, ceased; and the hot one suddenly followed. I then went to bed, leaving the ligature still on my arms, fearing the cold fit might perhaps return. The hot fit lasted much longer, and was more violent than in any of the preceding attacks; the circulation of the blood appeared so exceedingly rapid, that I felt every motion of the heart or pulse through the whole body. I remained in bed till about eight P. M., when, the heat and violent perspiration being over, I rose to change my linen and take a little nourishment; when I laid down again, the heat and sweating lasted the whole night, though less violent, and without further indisposition. Next day, which was to be considered as my good day, the weather being favourable, I took an hour's walk to Kemberg, where I dined with a friend, and among other things, notwithstanding his repeated warnings, made a good meal of a well-prepared milk diet; well knowing that food of such easy digestion could not occasion any relapse. Towards evening I returned home, and both in going and coming back, as well as during the night, the warmth and perspiration, although still greater than usual, was not inconvenient. Next morning about nine, the period for the return of the fever, I observed, particularly in my fingers, some sensibility to things that were in the least degree cold; and to prevent a new attack of the cold fit, by an irritation of this nature, I put on warm gloves and shoes, kept my warm room the whole forenoon, and took only warm drink, first coffee, and afterwards tea; I also prepared bandages for ligatures on the extremities, in case the fever was to return. However no fever took place, neither did I feel any symptoms of it afterwards, or find it necessary to take any tonics or other remedy. The only unfavourable consequence was that which commonly follows the sudden removal of a fever, viz.: slight œdematous swellings of different parts of the body and extremities; but in a few days, when the urine began to flow more copiously, these subsided.

"On talking some days after upon this matter with Mr. T., a brave, honourable, and well-informed officer in the Russian service, he told me that this mode of cure was not new to him, for that in Russia the peasants, on the cold fit of intermittents coming on, placed ligatures on both arms and legs; that in about ten minutes the bandages were removed, when, as if by an electrical stroke, the warmth instantly and speedily spread from the inner to the outer parts, and the heat was rather augmented universally; but this commonly prevented the recurrence of the paroxysm. I could not learn that any bad consequences had ever been observed to result from this treatment."

Note by Mr. Hufeland.—"This communication is remarkable in several respects: first, in a pathological point of view; as it seems to prove that intermittent fever with regard to its periodicity, is not a disorder of the vessels but of the nerves; and, like epilepsy, may be suppressed by ligatures and stoppage of the continuity of the nervous system: secondly, in a therapeutical point of view, as it teaches us a new and generally applicable and cheap mode of curing this disorder, which, the material cause being removed, has no contra-indication; except in plethora, when it might be adviseable first to bleed; and it might be safer at first only to tie up one extremity, which perhaps might be of sufficient effect."—*Hufeland's Journal, February* 1816.

MATERIA MEDICA.

III.—As our readers are already in possession of the observations of Professor Emmert* on the poisonous species of Angustura which has been sold on the Continent, we conceive the following extract, shewing the chemical characters of the true Angustura, from an Essay by *M. Planche*, will not be unacceptable:

"This bark is a little convex, commonly broader and thicker than that of flat cinchona. The epidermis is whitish, unequal, and rough; and the substance which it covers, of a fallow brown and of a hard and firm texture. If, after having chewed it, it is retained for some time in the mouth, a kind of constriction is felt, especially in the back part of the mouth, which is followed by nausea. The bark of the younger branches, according to Dr. Duncan, (*Edinburgh New Dispensatory,*) is of a fine green colour; but as this is not met with in commerce, any observations on it here would be out of place. When the Angustura vera is pulverized, the powder has a shade of colour which approaches very much to that of the powder of rhubarb.

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* Vide *Repository*, vi. p. 89. † *Journ. de Pharmacie*, Oct. 1816, p. 462.

" I macerated two ounces of this species in eight ounces of water for twenty-four hours, in a temperature of ten degrees. The liquid which passed readily through the filter, was very clear; its colour that of beer, its odour disagreeable, similar to that of bryony root, and its taste aromatic and bitter. The following were the results of experiments on this infusion:

" 1. A yellow precipitate was thrown down in it by sulphate of iron at a minimum.

" 2. Nitrate of silver formed in it a very abundant white precipitate, which at the end of an hour assumed a greyish colour in the portion most directly exposed to the light; and in two hours the whole precipitate had acquired a dirty purple colour.

" 3. Sulphate of copper was precipitated in yellowish flakes approaching to green.

" 4. A solution of isinglass did not present any remarkable change with this confusion of angustura, nor disturb its transparency.

" 5. Muriatic acid also did not produce any sensible alteration; but upon adding to the mixture prussiate of potass, a very abundant orange-coloured precipitate was obtained in a little time.

" 6. The filtered decoction of this angustura, which is deeper coloured than the infusion, is not sensibly changed by cooling. It is affected by re-agents in very nearly the same manner as the infusion."

PART V.

MEDICAL AND PHYSICAL INTELLIGENCE.

I.—SOCIETIES.

Royal Society.—On Thursday, Jan. 9, 1817, Sir Humphry Davy read part of a paper on Flame. The author divided his subject into four heads:—1. On the effect produced by rarefaction by means of the air-pump on the inflammation of gases. A small jet of hydrogen gas from a glass tube was extinguished when the air was rarefied six times; from a larger jet it was not extinguished till the rarefaction amounted to ten times. Bodies which produce most heat, and which require the least for combustion, burn the longest. Hydrogen burned till the atmosphere was rarefied ten times; olefiant gas, till the rarefaction was nearly as great; carbonic oxide was extinguished when the rarefaction amounted to five times; and carbureted hydrogen when it was only four times. Sulphur continued to burn till the rarefaction was thirty; phosphorus, till it was sixty; and phosphureted hydrogen gas burned in the best vacuum which he could form by means of his air pump. With regard to the heat produced by the different gases when burning, it was found hydrogen produces most heat, olefiant gas the next, then sulphureted hydrogen and carbureted hydrogen, and carbonic oxide the least of all. Carbonic oxide, being combustible at a much lower temperature than carbureted hydrogen, burns in an atmosphere more rarefied. A mixture of chlorine and hydrogen still burns, though very feebly, when rarefied twenty-four times; but a mixture of oxygen and hydrogen rarefied eighteen times and strongly heated, then only becomes capable of exploding by electricity; but only the heated portion burns. 2. On the effect of rarefaction by heat on the combustibility of the gases, Sir Humphry found that rarefaction by heat increases the explodability of gaseous mixtures. He considers the heat evolved by the combustion as the sole cause of the explosion.—On Thursday, Jan. 16, Sir H. Davy's paper on Flame was concluded. In the third part of his paper the author treats of the effect of different mixtures of other gaseous bodies on the combustibility of exploding compounds by the electric spark. He made a mixture of two volumes hydrogen and one volume oxygen gas, and tried the effect produced by adding various mixtures of other gaseous bodies. Olefiant gas was found to have the greatest effect in preventing the explosion of this mixture by electricity. From his experiments it appears that the effect does not depend upon the specific heat or the specific gravity of the gas added; but upon the property of the gas to conduct heat. Gases, he thinks, which conduct best will act most powerfully in preventing explosion, by carrying off the heat, and cooling the mixture below the exploding point. The fourth part of the paper consisted in general remarks and practical inferences. He finds that neither the rarefaction nor condensation of common air produces much effect upon flame burning in it.—On Thursday, Jan. 23, a paper by Sir H. Davy was read. He had concluded from his former investigations that flame consisted of gaseous bodies heated above whiteness; and he had found that oxygen and hydrogen, as well as oxygen and charcoal, might be made to combine silently at a temperature below redness, and to form respectively water and carbonic acid. It occurred to him that during these combinations heat was given out, not sufficient to cause the explosion of the gaseous mixture, but able to heat a metallic body to redness. While thinking of an experiment to determine this point, the phenomenon exhibited itself accidentally while he was making an experiment with a safe lamp in a mixture of carbureted hydrogen and air. He plunged the lighted safe lamp into this mixture, and then caused an additional quantity of carbureted hydrogen to pass into the mixture. The lamp was extinguished; but a platinum wire that was above the flame became red hot, and continued so for several minutes; and when it ceased to be luminous, the mixture had entirely lost its exploding properties. It was immediately obvious that the heat was evolved by the silent combination of the carbureted hydrogen with the oxygen of the mixture; and that, though not capable of exploding the mixture, it was yet capable of heating the platinum to redness. He describes an experiment which every person can make, and which serves admirably to illustrate the fact. Let a drop of ether fall into a glass vessel; heat a platinum wire by means of a hot poker, and plunge it into the vessel. It will immediately become red hot in some part, and continue so till the ether is consumed. During this silent combustion of the vapour of ether there is a phosphorescent light connected with some curious chemical changes which take place in the ether, and which he is at present engaged in investigating.

LINNÆAN SOCIETY. — On Tuesday, Dec. 3, a description was read of a fossil belemnite in flint, by Dr. Arnold. The specimen was remarkable, because it exhibited a very distinct jointed sphunculus passing through the fossil. Very little is known respecting the nature of the animal that inhabited this fossil. Dr. Arnold conceives that it was capable of rising or sinking in the water at pleasure, and that its structure was somewhat similar to that of the nautilus or cornu ammonis.—At the same meeting a specimen of an unknown fungus from Virginia, sent to the Society by Dr. Mitchell, was exhibited. It was very heavy, white, roundish, had a starchy smell, and when burned gave out no animal odour.—At the same meeting the remainder of Mr. Beechino's paper on the British junci was read.—On Tuesday, Dec. 17, a paper by Dr. Arnold was read, giving a description of a remarkable volcanic mountain in the island of Java. It is called by the natives Tankubanprau. The crater has nearly the form of a truncated cone inverted. The sides are about 500 feet high, and nearly perpendicular. There is a small lake at the bottom filled with water, having the taste of a solution of sulphuric acid. This water was boiling in several parts of the lake. But its temperature at the edge, taken by Dr. Horsfield, was 112°. It was surrounded by a soft mud, apparently a mixture of sulphur and clay. On the west side of this crater, and merely separated from it by a thin diaphragm of rocks, is another crater, rather larger than the other, and having at its bottom a lake of cold water. From this circumstance Dr. Arnold concludes that the two craters, though so near each other, had not any connection.—On Tuesday, Jan. 21, a paper by Sir James Edward Smith was read, on the Genus of Plants called Tofielda. He described six species of this genus, the first five of which had hitherto been confounded together by the name *anthericum caliculatum*.—Feb. 4. A new monograph of the elegant genus Pæonia, by the late Mr. George Anderson, was read. Mr. Anderson places this genus in the third order of the class Polyandria, between Aconitum and Homalium, conceiving that as the number of the pistils are almost always three, it has hitherto improperly stood in the second; and rejects the term folia ternata, in the specific descriptions, as unnecessary, all the species having ternate leaves. The species and varieties described by Mr. Anderson, were collected chiefly by Mr. Sabine; to whose observations on the genus, Mr. Anderson acknowledged himself deeply indebted. All the Pæonias are natives of cold climates; but, although found abundantly in the north of Europe and of Asia, none have as yet been discovered in America.

ROYAL COLLEGE OF SURGEONS.—Mr. Norris, the Master, agreeably to custom, on the 14th of February, delivered the Hunterian Oration. It was a very elaborate and judicious discourse. The Orator took a comprehensive view of the Rise and Progress of the Art of Surgery and Anatomy from the time of Hippocrates to the Hunterian era, when it first assumed the form of a Science; and concluded with a well-merited eulogium on several of the present Members of the College, by whose talents the College had been raised to its present exalted rank; and by whose donations and attention the *Museum*, now containing above 22,000 specimens in the highest state of preservation, had attained so high a degree of perfection. The Orator announced that which the profession will rejoice to learn; viz. that the Catalogue of this inestimable Collection is rapidly proceeding to its completion.

Hospital for the Small Pox, for Inoculation, and for Vaccination, at Pancras.—The following is an account of the number of patients admitted into the hospital, with the number of out-patients vaccinated; also the number of mothers admitted as boarders to nurse their children, from January 1st, 1816, to January 1st, 1817:

1816.	PATIENTS ADMITTED with the Natural SmallPox.	for Inoculation.	for Vaccination.	OUT PATIENTS for Vaccination.	MOTHERS admitted to nurse their Children.
January...........	7	2	——	77	
February.........	5	4	——	51	
March.............	5	3	——	163	
April................	5	1	——	321	
May.................	17	12	——	369	
June................	17	2	——	298	
July.................	14	8	——	224	
August............	9	2	——	252	
September........	8	——	3	244	
October...........	12	2	——	175	
November.........	15	1	——	80	
December........	27	——	2	59	
	141	37	5	2313	11
Died........	27	None.	None.	None.	None.

Jan. 2, 1817. J. C. WACHSEL, Apothecary, Steward, &c.

Annual Report of the London Vaccine Institution.—It appears, that during the year 1817, there have been vaccinated by Dr. Walker, 3,423; from the beginning, 27,134: By the appointed Inoculators in the Metropolis, 14,403; from the beginning, 48,210: By the appointed Inoculators in the Country, 25,672; from the beginning, 349,679. Dr. Walker, since the last Report, has supplied, to 4,316 applicants, 20,231 charges of matter; from the beginning, to 40,947 applicants, 195,999 charges.—From this statement, it is also evident that the vaccinations, under the auspices of this Institution, both in the metropolis and the country, have greatly exceeded those of the last or any former year, as has the demand for supplies of vaccine matter: and the Managers have the satisfaction to announce a very considerable addition of gratuitous inoculators during the last year; the total number of vaccinators in the metropolis and its environs, appointed by this Institution alone, amounting to no less than 200 persons, of the medical profession, whose exertions, in this great life-preserving practice, have been highly beneficial, and merit just appreciation. In the country, as well as more distant parts of the British Empire, a laudable zeal and emulation have also been manifested by voluntary offers of services in this great cause, which reflect much honour on the medical profession in general.

II.—PRIZE QUESTIONS.

The Academy of Sciences of St. Petersburgh, has offered a prize of 100 ducats for the best essays on the following subjects, which may be written in Russian, French, German, or Latin, and must be sent to the perpetual Secretary of the Academy before the 1st January, 1818.—" 1. A revision of all the experiments instituted upon Kali (potash) and Natron (soda), and their metalliform bases; and a more correct examination of the results which have been drawn from these experiments.—2. To submit Ammonia to a very particular and minute examination, in order to prove decisively which of the opinions hazarded upon its mixed nature is well founded, and if the metal which it is supposed to contain can be procured in a separate state.—3. To examine, in a more complete manner than has hitherto been done, the metals of the different earths; to see whether they can be procured in a pure and isolated state; to ascertain their properties in this state, as well as in a state of combination; and to point out their different relations, and how they may be exhibited."

The Royal Academy of Sciences and Arts of Rouen has proposed the following as the subject of a prize, to be given at its public sitting in 1817:—" To shew, devoid of any hypothesis, the consequences which naturally result from the observations and experiments hitherto made, relative to the motion of the sap in vegetables. — To confirm these results by new experiments; and to point out the useful application which may be made in the art of cultivation, which is known to be certain regarding the motion of vegetable fluids.—The dissertation to be in French or Latin, and transmitted free of expence to M. Vitalis, the perpetual Secretary for the Class of Science, before the 1st of July, 1817."

III.—MISCELLANEOUS.

We understand that Mr. Stevenson, of Great Russell Street, has undertaken, at a very short notice, to deliver the Annual Oration before the Members of the London Medical Society, vice Mr. Royston, deceased.

A METEOROLOGICAL TABLE,

From the 21st of January to the 20th of February 1817,

KEPT AT RICHMOND, YORKSHIRE.

230 Miles NW from London.

D.	Barometer. Max.	Barometer. Min.	Therm. Max	Therm. Min.	Rain Gage.	Winds.	Weather.
21	29 26	28 94	42	34		WSW...	1 Sun.. & Sh. of Snow.
22	29 19	29 14	47	40	21	SW....	1 4 R.. 2 3 S.. & Sh.
23	29 70	29 35	50	38	01	SW....	1 Showers. 4 Moon...
24	29 75	29 70	47	40		SW.SE.SW...	1 Sun.. 2 Cloudy..
25	29 75	29 69	50	44		SW..	1 Sun.. 2 Cloudy...
26	29 96	29 69	45	38		SW..	1 Sun.. 2 Cloudy..
27	30 04	30	42	28		WbN.	1 Sun....
28	29 84	29 80	39	30		W.S.	1 Sun.. 2 Mist... 4 Mn...
29	29 86	29 82	48	33		W...	1 3 Sun.. 2 Cy.. 4 Mn...
30	29 98	29 94	52	44		WSW...	1 Sun...
31	30 13	30 04	50	41		W..	1 Sun...
1	30 11	30 04	46	40		W..	1 Sun...
2	29 98	29 88	48	35		WSW.	1 Sun....
3	29 72	29 49	43	36		SW..	1 Sun.... 4 Cloud..
4	29 18	28 87	43	36	04	WSW..SW....	1 Sun.. and Showers.
5	29 44	29 40	44	36		WSW...	1 Sun... 4 Cloudy..
6	29 57	29 40	47	41	23	WSW.SW....	1 Sun. 4 Rain..
7	29 67	29 63	47	43		SW...	1 Sun..
8	29 80	29 63	47	38		SW...	1 S.. 4 Aurora borealis
9	29 61	29 52	46	39		SW..SW...	1 S... 4 Aurora borealis
10	29 63	29 59	46	34	22	NW..	1 Rain.. 4 Cloudy...
11	29 30	28 91	38	34	10	NW..W...	1 Sun.... 4 Showers.
12	29 42	29 36	43	33		NW...W..	1 Sun.. 4 Cloudy..
13	29 16	29 03	43	34	01	S..SW...	1 Mist... 3 S. 4 Sh.
14	29 24	29 04	39	36	01	WSW...	1 S.. & Sh of Snow.
15	29 12	28 94	41	35	10	SW..W...	1 S.. 2 Sh.. 4 Starl..
16	29 46	29 35	45	87		WNW..	1 Sun...
17	29 50	29 38	47	40		W..SW...	1 Sun.. 4 Starl....
18	29 68	29 44	46	36	26	S...SW...	1 Sun.. 3 Rain.. 4 Starl..
19	29 50	29 18	43	38	03	SW..	1 Sun.... 4 Rain.
20	28 93	28 90	46	35	07	SW....	1 Sh. 2 S... 3 R. 4 Mn..

The quantity of rain during the month of January was 1 inch 13-100ths.

The weather, this period, has been open, but almost constantly windy. The Aurora Borealis were very beautiful on the nights of the 8th and 9th of February.

Observations on Diseases at Richmond.

The district has been generally healthy. The following complaints have been under treatment: Cynanche Parotidea, Diarrhœa, Dyspepsia, Febris Catarrhalis, Febris Puerperarum (one slight case), Febris Simplex, Hæmorrhois, Hydrothorax (a hopeless case), Obstipatio, Paralysis, Pneumonia, Rheumatismus.

METEOROLOGICAL TABLE FOR LONDON,

***From the* 19*th of JANUARY to the* 20*th of FEBRUARY* 1817,**

By Messrs. HARRIS & Co.

Mathematical Instrument Makers,* 50, *High Holborn.

M.	D.	Therm.			Barom.		Rain Guage	De Luc's *Dry.*	Hygrom. *Damp.*		Winds.		Atmo. Variation		
	20	42	44	35	28^{8}	29			12	12	SSE	SW	Fine	——	——
●	21	36	40	37	29^{5}	29^{9}			10	9	SW	SSW	Fine	——	——
	22	43	46	43	29^{8}	29^{9}			10	20	SW	SW	Clo.	——	Fine
	23	47	52	45	29^{8}	29^{9}			19	15	SW	W	Clo.	——	Fine
	24	47	51	43	30	30			15	15	W	SW	Fine	——	——
	25	47	53	46	30^{3}	30^{3}			20	20	SW	SSW	Clo.	——	——
	26	47	49	45	30^{2}	30^{1}	05		16	15	SSW	SSW	Clo.	——	Fine
	27	47	48	42	30^{4}	30^{4}			15	10	SW	WSW	Clo.	——	——
	28	45	48	43	30^{4}	30^{3}			11	11	E	SW	Clo.	——	Fine
◐	29	45	48	42	30^{3}	30^{3}			10	11	SW	W	Fine	——	——
	30	44	51	44	30^{3}	30^{3}	03		12	12	W	NW	Fine	——	——
	31	45	48	39	30^{4}	30^{2}			13	10	NW	NW	Fine	——	——
	1	40	49	39	30^{5}	30^{5}			10	10	NNW	NNW	Fine	——	——
	2	40	49	39	30^{4}	30^{4}			10	10	W	WSW	Fine	Clo.	Fine
	3	41	46	39	30^{5}	30^{6}			10	9	SW	SSW	Clo.	Fine	——
	4	40	45	38	30	29^{4}			8	9	SW	SSW	Fine	——	——
	5	40	45	32	29^{6}	30			8	10	W	SSW	Fine	——	Rain
○	6	47	50	44	30	30^{1}	03		14	12	WSW	WSW	Clo.	Rain	Fine
	7	45	51	45	30^{1}	30^{2}			10	12	WSW	W	Fine	——	——
	8	48	51	44	30^{3}	30^{2}			10	8	WSW	SW	Fine	——	——
	9	49	51	44	30^{4}	30^{3}			7	7	SW	SSW	Fine	——	——
	10	46	49	35	30^{2}	30			8	8	Wva	SW	Clo.	Fine	Clo.
	11	36	38	35	29^{9}	30			8	9	ENE	SW	Rain	Fine	Clo.
	12	39	41	35	29^{9}	30^{4}			9	8	W	W	Fine	Rain	Clo.
	13	39	50	39	30	29^{6}	12		7	6	S	SW	Rain	——	Clo.
	14	40	47	39	29^{5}	29^{8}	19		6	8	W	SW	Fine	——	——
◑	15	41	48	37	29^{5}	29^{5}			9	12	WSW	W	Rain	Fine	——
	16	40	46	39	29^{8}	30	10		10	8	SW	SW	Fine	——	——
	17	42	49	42	30	30			8	12	SW	SW	Clo.	Fine	——
	18	45	49	42	30	30			15	12	SW	SW	Clo.	——	Rain
	19	45	47	44	30	30^{1}	23		10	12	W	SW	Fine	——	Rain

The quantity of Rain fallen in the month of January is 2 inches and 68-100th parts.

Bill of Mortality *from January* 21, *to February* 18, 1817,

		Jan. 28.	*Feb.* 4.	*Feb.* 11.	*Feb.* 18.	
CHRISTENED.	**Males**	236	240	260	197	
	Females	217	220	231	208	
		453	460	491	405	Total, 1809.
BURIED	**Males**	227	224	205	198	
	Females	217	192	195	176	
		444	416	400	374	Total, 1636.
OF WHOM HAVE DIED	**Under 2 Years.**	143	111	97	127	
	Betw. 2 and 5	37	37	36	25	
	5 and 10	21	13	19	15	
	10 and 20	10	21	18	11	
	20 and 30	24	27	19	26	
	30 and 40	43	46	37	35	
	40 and 50	44	41	39	46	
	50 and 60	42	35	37	35	
	60 and 70	35	47	40	28	
	70 and 80	25	25	34	16	
	80 and 90	17	10	19	9	
	90 and 100	3	4	5	1	
	SMALL POX	15	13	13	19	Total 60.

A REGISTER OF DISEASES

Between JANUARY 20th, and FEBRUARY 19th, 1817.

DISEASES.	Total.	Fatal.	DISEASES.	Total.	Fatal.
Abortio	16		Epilepsia	6	
Abscessio	17	3	Epistaxis	6	
Acne	6		Erysipelas	17	
Amaurosis	2		Erythema *læve*	8	
Amenorrhœa	26		——— *nodosum*	2	
Anasarca	22	1	Febris *intermittent*	14	
Angina Pectoris	2		—— *catarrhalis*	89	
Anorexia	4		—— *Synocha*	14	
Aphtha *lactentium*	14		—— *Typhus mitior*	12	3
——— *anginosa*	3		—— *Typhus gravior*	14	4
Apoplexia	7	4	—— *Synochus*	10	
Ascites	14	5	—— *Puerpera*	2	
Asthenia	35	4	—— *remit. Infant*	18	
Asthma	65	14	Fistula	2	
Atrophia	3		Furunculus	8	
Bronchitis *acuta*	6		Gastritis	1	
——— *chronica*	5		Gastrodynia	34	
Bronchocele	1		Gonorrhœa	24	
Calculus	1		Hæmatemesis	1	
Caligo	2		Hæmoptöe	28	
Cancer	4		Hæmorrhois	23	
Carbunculus	2		Hemiplegia	5	1
Cardialgia	27		Hepatalgia	13	
Catalepsia	1		Hepatitis	24	
Catarrhus	122		Hernia	8	
Cephalalgia	38		Herpes *Zoster*	4	
Cephalæa	9		——— *circinatus*	1	
Chlorosis	15		——— *labialis*	2	
Chorea	2		Hydrocele	3	
Cholera	8		Hydrocephalus	10	6
Colica	22		Hydrothorax	5	
—— *Pictonum*	7		Hypochondriasis	14	
Convulsio	20	4	Hysteralgia	2	
Coryza	13		Hysteria	14	
Cynanche *Tonsillaris*	36		Hysteritis	1	
——— *maligna*	3		Icterus	14	
——— *Parotidea*	3		Impetigo *figurata*	1	
——— *Pharyngea*	2		——— *erysipelatodes*	4	
Diabetes	2		Ischias	2	
Diarrhœa	78		Ischuria	4	1
Dysenteria	13	1	Lepra	1	
Dyspepsia	91		Leucorrhœa	18	
Dyspnœa	25		Lichen *simplex*	2	
Dystocia	2		Lithiasis	2	
Dysuria	10		Lumbago	3	
Ecthyma	1		Mania	6	
Eczema	3		Melancholia	7	
Eneuresis	4		Menorrhagia	28	
Enteritis	7	2	Miliaria	4	
Entrodynia	34		Morbi *Infantiles**	111	5

DISEASES.	Total.	Fatal.	DISEASES.	Total.	Fatal.
Morbi *Biliosi**..............	77		Psoriasis *inveterata*.........	3	
Nephralgia................	5		Pyrosis..............	4	
Nephritis.......	3		Rachitis................	4	
Neuralgia....................	10		Rheumatismus *acutus*......	42	
Obstipatio........	43	1	——— *chronicus*...	60	
Odontalgia................	18		Roseola............	4	
Opththalmia..	56		Rubeola	12	1
Otalgia......................	8		Scabies...	158	
Palpitatio.....................	8		Scarlatina *simplex*..........	12	
Paraousis.......................	3		——— *anginosa*.........	2	
Paralysis....................	12	1	Scirrhus.......................	1	
Paraplegia......................	2		Scrofula.......................	24	
Parouychia.......	9		Spasmi...	9	
Peripneumonia...............	12	1	Strictura.......................	11	
Peritonitis	6		Strophulus *intertinctus*...	4	
Pernio..............................	6		Syncope.........................	2	
Pertussis..................	37	4	Syphilis.......	47	
Phlogosis........................	14		Tabes Mesenterica.........	5	2
Phthisis *Pulmonalis*........	27	10	Tympanites..................	1	
Plethora........................	6		Vaccinia........................	92	
Pleuritis........................	22		Varicella......	1	
Pleurodyne.....................	10		Variola.........................	32	4
Pneumonia......................	31	7	Vermes..................	39	
Podagra............	15		Vertigo.........................	38	
Porrigo *larvalis*.............	2		Urticaria *febrilis*...........	4	
——— *scutulata*...........	6		——— *evanida*.........	2	
——— *favosa*	1				
Prolapsus..........................	5		Total of Cases	2578	
Prurigo *mitis*.................	3				
——— *senilis*...............	5		Total of Deaths..............		92
Psoriasis *guttata*............	5				

* *Morbi Infantiles* is meant to comprise those Disorders principally arising from dentition or indigestion, and which may be too trivial to enter under any distinct heads; *Morbi Biliosi*, such Complaints as are popularly termed *bilious*, but cannot be accurately classed.

Observations on Prevailing Diseases.

The last month has been tempestuous, and much rain has fallen; but the mildness of the weather has really been extraordinary. In the correct Meteorological Table which we publish for London, it will be observed, that from January the 20th to February the 19th, the mercury but once sunk to the freezing point; and sometimes it has even been as high as temperate. At Richmond, in Yorkshire, it has been also exceedingly mild. That phænomenon, the *Aurora Borealis*, has been observed, and it assumed a singularly beautiful appearance.

A state of atmosphere like the past month, unseasonably muggy and humid, is generally most favourable to epidemics; accordingly the catarrhal form of fever, generally characterized as the *Influenza*, has been very rife. This, in some instances, has been attended with a violent cough; but more commonly was confined to the eyes and the mucous membrane lining the nose; and not unfrequently has amounted to the more aggravated form of *Coryza*. These attacks have often yielded to confinement within doors, and a simple diluent plan of treatment. Inflammatory affections of the respiratory organs are neither so severe nor so frequent.

All the exanthematous diseases, within the range of our Register, seem to be on the decline. &c.

LITERARY NOTICES.

Dr. Burrows will publish, in a few Days, "Cursory Remarks on a Bill now pending in Parliament '*For Regulating Mad-Houses*' throughout Great Britain; its probable Influence on the Physical and Moral Condition of the Insane; and upon the Interests of those concerned in their Care and Management."

Dr. Smith of Salisbury is now bringing out, in Monthly Numbers, his *Flora Salisburiensis*.

Mr. Thomson is advancing with his botanical work. It will contain, besides an Abridgment of Pharmaceutical Botany, an Epitome of the Science.

Mr. Purton of Alcester is about to publish a Midland Flora, with Engravings by Sowerby.

MONTHLY CATALOGUE OF BOOKS.

The Hospital Pupil, in two Letters. By James Parkinson. 8vo. Second Edition, enlarged and improved.

Considerations on the Moral Management of Insane Persons. By John Haslam, M.D.

Memoirs of the Life and Writings of the late Dr. Lettsom. By F. J. Pettigrew, F.L.S. &c. 3 vols. 8vo.

A Cursory Inquiry into some of the principal Causes of Mortality among Children. By J. B. Davis, M.D. 8vo.

Some further Observations on the Subject of the proper Period for Amputating in Gun-shot Wounds, accompanied by the Official Reports of the Surgeons employed in His Majesty's Ships and Vessels at the late Battle before Algiers. By A. C. Hutchison. 8vo.

Memoirs of the Life and Doctrines of the late John Hunter, Esq. By Joseph Adams, M.D. 8vo.

NOTICES TO CORRESPONDENTS.

Communications are received from Dr. Luke, Mr. Rigby, Mr. Ring, jun., Mr. Dunn, Ωδινοβοηθος, &c.

We have likewise to acknowledge the receipt of an elaborate "Essay on the Venereal Disease;" *and an ingenious paper, intitled* "Primary Elements of Disordered Circulation:" *to which the earliest possible insertion shall be given.*

The paper to which Cato *refers, we will take an opportunity of carefully examining; and act, in regard to it, as the contents may impress us. But we will just hint to* Cato, *that he should be quite sure that its appearance in the periodical Journal he alludes to, was with the author's participation.*

The Observations of our Correspondent A. B. *appear rather to belong to morals than physics; nor can we conceive what good object can be obtained by inserting them in a medical work.*

As, since the peace, the Prices of Drugs and Pharmaceutical Preparations are less liable to variation, and phials still more rarely, the Editors *in future will publish the* Prices of Substances used in Pharmacy, *and* of Phials, *once a quarter, instead of every month.*

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PART I.

ORIGINAL COMMUNICATIONS.

I.

Observations on the Changes of Colour of the Skin produced by the exhibition of different Articles of the Materia Medica.

By Edward Rigby, Norwich, Member of the Royal College of Surgeons in London.

In the first part of the seventh volume of the Medico-Chirurgical Transactions, (p. 284,) is a paper by Dr. Albers of Bremen, and Dr. Roget, containing Observations on a Change of Colour in the Skin, produced by the Internal Use of Nitrate of Silver, but which they have not attempted to explain on any chemical or other principles*.

The reading of this paper brought to my recollection an equally singular change of colour on the skin, effected by the admission into the circulation of two other articles of the materia medica, but which admits of very obvious explanation. This occurred many years ago, at the earliest period of my attending to medical subjects, and possibly it is not unworthy of being put upon record.

An unfortunate female was admitted into one of the pauper establishments of that day, in this city, for the cure of lues, when it was found she was also suffering under itch. Sulphur ointment was used in the first instance for the cure of the cutaneous disease; and soon after, while the fœtor of the skin sufficiently evinced the continued sulphurous impregnation, she began the mercurial friction. When the mouth became affected, the skin began to assume a dirty dusky blue colour; and by degrees, the mercurial friction going on, it became quite black; the patient exhibiting the appearance of an Æthiopian. The reader will at once see that this was produced by the union of the quicksilver and the sulphur, forming the Æthiops' mineral of the old Pharmacopœias, and which seemed to have been deposited upon every point of the skin.

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* Upon this curious phænomenon, we have given the opinions of M. Butini of Geneva, and have ventured to offer our own theory. —Vide *Retrospect of the Progress of Medical Science, Repository,* vol. vii. p. 16.—Editors.

The ready absorption of mercury and its quick diffusion over every part of the system, are well known to practitioners, and have often been noticed by their patients; who, when undergoing mercurial friction, have found their watches and money covered with quicksilver; and the characteristic fœtor of the whole surface of the skin, when sulphur has been only partially rubbed on it, proves its equally extensive diffusion.

The divisibility of matter has been the subject of much philosophical investigation, and the state of tenuity to which it is reducible even by mechanical means, almost exceeds belief. The diffusion of odoriferous particles through large masses of air, has usually been cited as one of the most striking instances of its extreme divisibility. But the rarity to which, by the intervention of caloric, it is reducible, in the production of vapour and elastic gases, is still greater. The solution of bodies in different menstrua, and the precipitation and sublimation of metals, are also instances of their extraordinary divisibility; nor is the fact before us, of the tenuity to which the particles of mercury are reducible by an animal process, perhaps less worthy of notice. The deposit of the combined particles of sulphur and mercury on the whole surface of the skin in the form of Æthiops' mineral, most resembles that of precipitation, and would lead us almost to conjecture, that something like solution takes place on their admission into the circulation; but how they are precipitated, and seemingly exuded from every capillary, it is not very easy to understand.

That they were deposited in a powdery state like other precipitates, was evident from the linen of the patient being soiled, and a dirty black powder being separable from both the skin and the linen.

I may add, though it is sufficiently obvious from the foregoing detail, that the discolouration of the skin in this case, unlike that of the *stain* produced by the nitrate of silver, was not permanent; it disappeared soon after the mercurial friction was discontinued; as soon, probably, as the mercury was completely discharged from the system, the skin being, it would seem, its principal emunctory. The colouring matter appears to have been simply deposited on the surface of the skin, without having, as in the process of dying, been admitted into its interstices. In the other case the skin was obviously stained or dyed by the nitrate of silver; and its having been dyed black, accords with the well-known fact of the skin being always blackened when touched with nitrate of silver, and of a weak solution of it being sometimes used to stain the hair and eyebrows black.

II.

A Case of Abortion, with some Observations on the Powers of Fœtal Life. By J. Syer, Surgeon-Apothecary, Atherstone, Warwickshire.

On the 26th of last December, I was called to attend a woman about the age of forty, who had been the mother of eight healthy children, who was then advanced rather beyond the fifth month of her ninth pregnancy, and had experienced for the last ten or twelve days a considerable degree of uterine hæmorrhage. She laboured under many symptoms threatening abortion, but did not suffer any very acute pain. The returns of pain were generally periodical, towards evening, and principally occupied the hypogastric region; and she perceived a very lively sense of motion in the child to the latest period of pregnancy. She was directed to take small doses of alum, opium, and aromatic powder, every six hours, and a grain of purified opium at going to bed; to use cold applications to the vagina, and to maintain as much quietude and as much of a recumbent position as the cares of a large family would possibly admit.

In the afternoon of that day, the pains in the abdomen suddenly increased, accompanied with the expulsive efforts of labour, and my patient was soon delivered of a very small female child, apparently between the fifth and sixth month of utero-gestation, which was extremely livid in every part, the head and face being nearly of a blackish purple hue. The pulsation of the funis and some faint gasping efforts clearly denoted the life of the child, although it was in a complete state of asphyxia; several minutes were allowed to transpire, and until the pulsation of the funis had nearly ceased, before I removed it from the placenta. On a closer examination of the child, the right eye was particularly black and tumified, the lower jaw relaxed to the utmost, and the upper and lower extremities were perfectly listless. On separating the eye-lids, the eyes had rather a bright appearance, but the lids were so far contracted, as to admit of my observing only a small portion of the opaque cornea. About every eight or ten seconds the child performed a sort of imperfect gasp, with a slight degree of querulous sound. Neither before nor during the continuance of the actions could I feel the pulsation of the heart, although some degree of circulation was evidently going on. A warm bath could not immediately be procured, but within the space of five minutes at least, it was immersed in water at the temperature as nearly as I could calculate, of about 100°. The child at first appeared perfectly insensible to the stimulus of heat; but in about two or three minutes, the gasping and wailing efforts increased in strength and frequency; the countenance was rather less livid, but the rest of the integuments retained nearly the same complexion as at the birth. In about six or seven minutes subsequent to the first immersion, I could perceive a slight pulsation of the heart, and soon afterwards the action of the carotid and subclavian arteries was clearly observable: attempts to inflate the lungs, in imitation of natural respiration, were occasionally practised. I regret that this operation was confined to the use of impure air; and although its effects were trivial, and principally distended the lungs mechanically, yet, as a more perfect approximation to natural respiration occurred, a good deal of frothy sanious mucus was expelled by the nostrils; such as is frequently detached in considerable quantity from a fœtus of maturer growth when exposed to the first influence of atmospheric air.

I was anxious to prolong the child's existence by artificial means, not so much from anticipating its final restoration, as to watch the progress and ultimate extinction of fœtal existence; (if any one may apply such a term to the embryo when detached from the mother, though surrounded by atmospheric air;) as far as any inference could be drawn from the continued circulation of unoxygenated blood, and a consequent defect of all the principal functions that could only be put in action by the stimulus of arterial blood which had enjoyed a free transmission through the lungs *.

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* Bichat fully substantiates this opinion; and in the latter part of the following sentence which I have quoted, he seems to concur with the late Mr. Hunter, whose authority, as a physiologist, must always have nearly equal weight, at least in this country; and whose sentiments, in a parallel case, I shall subjoin. Bichat says, " Tous les organes internes meurent donc à peu près comme dans l'asphyxie, (1mo.) parce qu'ils sont frappés du contact du sang noir; (2do.) parce que la circulation cesse de leur communiquer le mouvement général nécessaire à leur action, mouvement dont l'effet est indépendant de celui que produit le sang par les principes qu'il contient."—*Récherches sur la Vie et la Mort*, p. 339, 8vo. troisieme edition.

Mr. Hunter, in reasoning from an experiment which he had

The phenomena which occurred within the short term of the child's existence, are not destitute of curiosity and interest.

Although I have stated that the child was immersed in water, it is also necessary to mention that the temperature of the fluid was gradually heightened every three or four minutes, as a greater degree of activity in the subject was demonstrated; and its effects at one period were very conspicuous: the powers of life being kept in a state of fluctuation from first to last, nearly thirty-five minutes.

The most striking objects of contemplation that presented themselves, were, an increased strength and frequency of the function of respiration (in which the process of expiration was most strongly marked) as the vibrations of the heart and carotids became more sensible; a slight depression and elevation of the intercostal muscles ensued, but no motion of the diaphragm; and hence that the action of this muscle may be dispensed with during respiration. I once had an opportunity of witnessing these last phenomena in an adult, who lived more than twenty minutes after being knocked down by the sail of a windmill, and in whom animal heat was very gradually diminished, and the action of the ribs was very apparent until life was extinct. I did not stimulate the nostrils, but introduced occasionally a few drops of weak white-wine and water into the child's mouth, which in several of the earlier experiments excited no effort on the part of the child to swallow; but as the sighing and imperfect attempts at coughing and crying were repeated, (which were now observed to be not less than from eighteen to twenty-four in a minute,) the function of swallowing was plainly perceptible, and once or twice a contraction of the mouth followed. The eye-lids were a few instants slightly separated by the natural retraction of the proper external muscles; and the pulsation of the vessels of the funis were very vigorous for nearly a quarter of an hour. Until this crisis, very little proof had occurred of sensibility; but by persisting in my efforts to prolong the term of this imperfect existence, in the same warm medium, and by the cautious and reiterated administration of stimuli by the mouth, and by more perfect attempts

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recently made on a dog, and which he applies to the still-born child, asserts, "That the restoration of life would seem to depend *immediately* on the application of air to the lungs; and *not* upon the effects which the air has upon the blood, or that blood upon the vital parts."—See his paper, On the Proposals for the Recovery of Persons apparently Drowned, in his Observations on certain parts of the Animal Œconomy. How far the validity of my remark is weakened by the conclusion of Mr. Hunter, I most readily submit to the decision of a more sagacious observer than myself.

to assist the full act of expiration, a strong contraction of the diaphragm during every interval of breathing, and an increased degree of sobbing, and alternate efforts to cough supervened*; still scarcely any change of colour whatever was observable in the skin, except a lighter mottled shade about the thorax and abdomen. Although I could never discover the slightest pulsation at the wrist, yet from the strong action of the remains of the umbilical vessels, one would naturally conclude that the circulation of the hypogastric vessels, and of course that of the lower extremities, were not deficient. The action of swallowing, (perhaps in this case purely involuntary,) I believe, survives most other animal functions, and appears to have been the first *sensitive* faculty† here displayed. The sensibility of the skin was manifested about the same time, by a degree of loco-motion, accompanied with a palpable retraction of the upper and lower extremities, when exposed to the maximum of heat of the surrounding medium; but I was flattered with witnessing these phenomena for a very short period. The pulsations of the heart in about twenty-eight minutes became almost imperceptible; the diaphragm ceased to act; the pulse at the umbilicus scarcely could be recognised; and the faculty of swallowing vanished; and a few very faint gasping efforts, repeated at very distant intervals, closed the scene: the same order being observed in the declension of this series of actions, as was conspicuous in their first developement.

Although the result of all the vital phenomena here recorded will prove little beyond the developement of fœtal existence, yet we must conclude, that the foramen ovale, as well as the ductus arteriosus, were almost entirely pervious; and that certain faculties were superadded, in consequence of the application of external stimuli. Perhaps, further reflection may justify me in asserting, that the series of actions tend to evince a species of existence, or that gradation of it, which might not improperly be termed an intermediate state between the fœtal and full stage of human evolution*.

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* The reader will here, perhaps, think he has discovered an error in my excluding the action of the diaphragm before, when adverting to some faint paroxysms of coughing. That some degree of obscure passive motion might then be exerted, is not improbable; but on the present occasion, the muscles presented a complete convulsive swell, and there was a concurrence of action in the abdominal muscles.

† Although I have ventured to restrict the more obvious proofs of sensibility evinced in this experiment, to the faculties of swallowing and the sensibility of the skin, which will next be recorded, yet I am aware of the difficulty of defining the limit of irritability and sensibility, and of establishing the point of the exclusive existence of the former. The same objection, perhaps, applies to the nice and systematical distinctions of *animal* and *organic* life, when viewed, as must sometimes happen in an insulated light; though so ingeniously and philosophically laid down by one of the greatest of modern physiolgists.

It is true, that the degree in which the more complicated functions were unfolded was very limited; yet we may be able to trace the connection, in the event of a greater variety of means being employed, with still greater precision; and in this age of physiological inquiry, it cannot be otherwise than highly instructive to watch the progressive developement of the perfect creature. That the lungs betrayed some degree of irritability and motion, although they must have been in a state nearly approaching to collapse, may be fully inferred from the occasional paroxysms of coughing and crying.

It was a subject of regret to me, that I was not allowed to inspect the thoracic viscera after death.

In stating what means I had employed in the prosecution of this experiment, it will abundantly appear what were omitted in aid of it. I had to lament the want of a good thermometer; no observation was consequently taken of the variations of animal heat: but in so partial a state of the circulation of the blood, and during such an unalterable condition in the appearances of the skin, one could hardly anticipate much change of temperature. Mr. Hunter's double bellows for inflating the lungs would have been a very important acquisition at one period of this experiment. It is not improbable, that stimulating the nostrils would have induced more violent efforts of coughing and sneezing. I confess that I viewed this fœtus as too imperfectly and inadequately formed to sustain the various functions of complete animal life; and that no effort of man could compensate the defect which attached to the indispensable concurrence of perfect sympathy between the heart and the lungs†. It is highly curious, that this imperfection does not exist at the seventh month of conception; and that human life at that period when nearly dormant, is, generally, under favourable circumstances of parturition, without much difficulty roused. The solution of this fact I must leave to some more able physiologist, whose taste for experiments, and opportunities of investigation, have been more successfully directed in the field of comparative anatomy*.

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* Perhaps it could scarcely have been said to identify any faculty beyond the sphere of organic life.

† Dr. Hunter offers a somewhat similar explanation in cases of *earlier* abortion; his remark is, "that in those which are by far the most common miscarriages, and which generally come away in the latter part of the third month, and which it is so difficult to prevent by any skill or care; may we not presume that there is in the organs, which at that age are too delicate to be objects of our ex-

I cannot, however, refrain from marking one circumstance which was strongly exemplified in the foregoing case: viz., the extensive and beneficial effects of artificial heat, when gradually heightened in a fluid medium, during the suspension and gradual resuscitation of vitality. A recurrence to this fact cannot but apply with equal force to diseases, and to accidental and premature death. Mr. Hunter, in speaking on the subject of warmth as a restorative of the suspended actions of life, in the paper already referred to, says, "that warmth causes a greater exertion of the living powers than cold; and than an animal in a weakly state may be obliged by it to exert a greater quantity of the action of life, sufficient to destroy the very powers themselves."

How far the uterine hæmorrhage which the mother had sustained prior to delivery might have added to the difficulty in bringing about the re-animation of the fœtus, I will not pretend to calculate; but it would be unfair to deny altogether the influence of this circumstance.

P.S.—I entirely concur with an opinion expressed in the last RETROSPECT of MEDICAL SCIENCE, (See No. 37,) with regard to the very inconclusive experiments and reasoning adopted by Dr. Johnson in his controversy with Dr. Parry. Fond as I am of theory, and willing to make allowance for each one's partiality in fostering the productions of his own creative genius, still I think we cannot be too jealous in admitting any species of remote analogical experiment in explaining the vital functions; since we have abandoned, in this part of Europe, the mechanical philosophy in medicine. The *cæteris paribus*, which should be a cardinal point in enabling us to draw any legitimate deduction, must,

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amination, some uncompensated defect, which admits of their living only so long and no longer?" See Dr. Hunter's reflections in the sequel of his Cases of Mal-conformation in the Heart, London Medical Observations and Inquiries, vol. 6. p. 307.

* Are we at liberty to suppose, that in a fœtus, a little beyond the fifth month of conception, the foramen ovale and ductus arteriosus would *necessarily* close, in the event of exciting the ordinary process of respiration with the help of atmospheric air; as we know that the area of these fœtal channels differs in fœtuses at different periods of existence?

tali auxilio, be wholly discarded. With regard to the laws of the circulation of the blood, so far as they afford a fair scope for human research, in spite of all the ingenuity that has been displayed by Dr. Parry (whose talents are of the first class); I must venture to state, that no experiments have yet superseded the truly scientific explication of the phenomena recorded by Mr. Hunter in his "Observations upon the Action of the Arteries, and the Velocity of the Blood's Motion;" and in Dr. Fordyce's Physiology, (or Natural History, as he terms it, of the Human Body,) in the first part of his Elements of the Practice of Physic, pp. 63, 73. The observation of Dr. Parry in his Elements of Pathology, (a work for which I think the profession at large highly indebted to him,) "that we are not always to judge of the intensity of local diseased action by the pulsations of the radial artery alone," is certainly a valuable and useful suggestion, and ought always to be remembered.

III.

A Case of Hernia Cerebri. By T. G. Coombe, of Newcastle, Staffordshire, Member of the Royal College of Surgeons in London.

Wm. Platt, aged fifteen years, received a violent injury on the head from an accident in a coal pit. When I saw him, he was labouring under all the symptoms of compressed brain, with a lacerated wound in the scalp, over the left side of the coronal suture. There was also a fracture of the skull, which, upon enlarging the wound, appeared to extend in different directions over the frontal and left parietal bones; a portion of the former being quite driven in, which had lacerated the dura mater. I removed this depressed portion of bone, as well as several projecting points, with great facility, by means of Hey's saw; when the opening in the cranium was nearly two inches diameter. On the following day, I found him relieved from every symptom of compression, although his pulse was somewhat accelerated; on which account, I took away twelve ounces of blood, and gave him some purging medicine, which had the desired effect. He was relieved in every respect; but was still apparently insensible to surrounding objects, although he was easily roused and gave rational answers to any questions that were put to him; nor had he any stertorous breathing, or other symptoms of compression. On the fourth day I removed the dressings, and was pleased to find the wound in a very promising state, having partly united; he was perfectly sensible, and able to take light food; he made no particular complaint; nor had he any fever or other bad symptom. The wound daily continued to improve until the 10th day, when a small puffy tumour appeared pushing up the part of the wound which had already united. This tumour continued to increase rapidly, when the cicatrix over it assumed an unhealthy appearance, and on the 15th day it gave way, and a portion of brain instantly protruded, which in a very short time became the size of a hen's egg, covered by the pia mater, and the pulsation in it was very distinguishable.

The symptoms of compression returned, and increased in violence in proportion to the growth of the tumour; the top of which soon acquired a soft unhealthy appearance, which I removed by means of a common spatula; and in a very few hours after, a discharge of thin bloody fluid commenced, which continued for twenty-four hours, so that several ounces were discharged. The symptoms of compression now speedily and entirely ceased, and the boy again became quite sensible, although dreadfully emaciated. These circumstances induced me to augur rather favourably of the case, as I was inclined to think that the tumour might slough away by small portions; a result which Mr. Hill, in some of his cases in surgery, records. These flattering appearances, however, were of short duration; for although he had no return of any symptoms indicating compression of the brain, yet he sunk very fast, and, on the 30th day, died.

DISSECTION.

On turning back the integuments, and denuding that part of the cranium where injury had been received, I found that the root of the tumour completely occupied the whole of the aperture which was made by the removal of the depressed portion of bone. Its consistence was much firmer than that portion which had been taken away. It was easily detached from its connection with the subjacent brain. Upon removing about a fourth part of the calvarium, on the anterior part of the left side of the head, a large quantity of thick dark-coloured fluid appeared, consisting of blood and brain in a state of suppuration, intermixed with several clots or coagula of blood; and so extensive was the injury which this organ had sustained, that at least one third of the left hemisphere of the cerebrum was destroyed or diseased.

OBSERVATIONS.

This case very strongly corroborates the opinion which Mr. Abernethy, and one or two other authors, had formed as to the nature of the disease. Mr. Abernethy thinks that it proceeds from an injury done to a part of the brain by concussion or contusion, terminating in a diseased state of the vessels, and thereby producing an effusion of blood into the substance of the brain [*]. In the case which I have just related, there was considerable injury done to the brain, and, most probably, much internal hæmorrhage; which, being at first confined under the tumour, produced apoplectic symptoms, which subsided on the discharge that succeeded the removal of the tumour; and these symptoms never returning, led me to conclude that the patient did not die from compression, a fact which the dissection clearly proved; for the diseased state of so great a portion of the brain was sufficient to account for the death of the patient, and to excite astonishment that he had lived so long.

Mr. Hill states that he has been successful in one or two instances of this disease by putting the point of the lancet through the root of the tumour, and by that means from time to time evacuating any fluid confined beneath; but in the present case, I cannot think that such a treatment would have saved the life of the patient, as I do not conceive that he died from compression of the brain, but from the great and deep seated injury that organ had sustained [†].

IV.

Observations on the Fatal Effects of the Eau Medicinale as a Remedy in Gout. By O. W. Bartley, M.D. Physician to the Bristol Dispensary.

I felt much pleasure in perusing, in the *Repository* for October last, the review of Dr. Scudamore's *Treatise on the Nature and Cure of Gout;* and the extracts which you have given, impress me with a high opinion of the excellency and general utility of the work. It was indeed supplying a grand desideratum; for the nature and treatment of gout have hitherto never been clearly defined, and were but little understood; owing, in some measure, to a blameable supineness in the faculty, or probably from a notion of the impracticability of a cure; and it has indeed been so generally considered as the opprobrium medicinæ, that in common cases of it medical practitioners are seldom consulted.

Any difficulty arising in the pursuit of knowledge should not retard our pursuit; but on the contrary, should stimulate us to the exercise of a more vigorous investigation of the sub-not probable this may have occurred in the fatal instance I have recorded, and occasioned death? I do not pretend to a knowledge of the composition of this foreign medicine, and I believe it has not yet been ascertained with any degree of certainty. Its properties however I regard as highly pernicious; and this opinion is confirmed by the information I have obtained from some, who, on its first appearance, adopted it. Most of those who were formerly sanguine in their expectations, and warm in its commendation, now, warned by experience, are decidedly inimical to its employment. I am fully persuaded that its long continued use will gradually undermine the stoutest constitution, by impairing the organs of digestion, and diminishing the nervous power; and that it must consequently abridge the life of the patient. My object in offering these remarks, is to caution persons against a false security in the opinion that the *eau medicinale* is innocuous, that they may desist from its use ere it be too late. However the advice may be received, I am conscious the intention is public good.

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[*] Vide *Abernethy on Injuries of the Head.*

[†] Lest we should be accused of plagiarism, a literary crime which we detest, we beg leave to state, that the above case has appeared in a contemporary Journal; for which reason, there was less occasion for an earlier insertion of it in the *Repository.*—Editors.

V.

A Fatal Case of Hæmatamesis from Ulceration of the Stomach, with the Appearances post mortem. By George Johnson, John Street, Minories, Member of the Royal College of Surgeons, and Society of Apothecaries in London, &c.

Mrs. P., a lady forty-four years of age, of a spare habit, lively, and of an active disposition, was frequently and for several years subject to dyspepsia, with severe spasms of the stomach. She had menstruated but sparingly or not at all during that time. On the 15th of December 1816, she was seized with a vomiting of blood to the extent of about eight or ten ounces; and it appeared that nearly the same quantity had been brought up from the stomach about ten days before. She had frequent retching, and was faint, but complained of little pain; her bowels had been very open, and the fæces were mixed with a portion of blood. Considering this to be a case of hæmatamesis, the following draught was ordered to be taken every four hours:

℞ Infus. Rosæ, f℥x.
Pulv. Aluminis, gr. xviii.
Tinct. Opii, ♏ iv. Misce.

She passed a tolerable night, the sickness had abated, and the medicine was continued. In the evening the vomiting returned, and the quantity of blood, as well as could be ascertained, it being mixed with the contents of the stomach, was judged to amount to twelve or sixteen ounces. The faintness was thereby increased; the pulse was small and particularly quick. Considering the hæmorrhage might have been brought on by taking too largely of chicken-broth and other drinks, these were put under certain limitations. The vomiting returned on the following day (17th); but was small in quantity and unmixed with blood, consisting principally of curdled milk. At this period the faintness increased to an alarming degree, and as there was also great restlessness, the following draught was ordered to be taken every four hours:

℞ Infusi. Rosæ, f℥x,
Tinct. Hyosciami, ʒss.—Misce. Fiat haustus interdum cum Mist. Camph. loco Infus. Ros.

She remained from this time in a state of insensibility, taking very little nourishment, and expired on the 27th very much convulsed. A strong and constant pulsation at the scrobiculus cordis induced a belief that the partial rupture of an aneurismal tumour had furnished the hæmatamesis.

DISSECTION.

The lungs, heart, and large vessels were sound. The stomach was puckered and contracted in the middle. On opening it, about two ounces of purulent matter was all it contained. At the contracted part, there was an ulcer of about the size of a shilling; and at this part the villous, nervous, and muscular coats were destroyed, and the peritoneal coat so thin, that on holding it to the light it was transparent.

This morbid organ is placed in the Museum of St. Thomas's Hospital.

VI.

Observations on Pemphigus. By EDWARD DANIELL, Surgeon-Apothecary, Weldon, Northamptonshire.

As I consider it the indispensable duty of every medical character to enlarge the limits of his own intelligence, and contribute every means in his power towards the improvement of his art, I am not willing to let slip any opportunity whereby I may add to the general stock of information.

The pathology and genuine character of vesicular fever remains yet obscured; and although it is a disease but little witnessed, and perhaps little regarded in the medical world, yet from the virulent and sometimes alarming aspect it puts on, it ought really to be considered with the greatest attention; and to excite such a degree of interest in every medical philosopher, a-to stimulate him to exert his faculties in exploring its decided character, and finally to develope its genuine nature.

Since writing my paper published in the *Repository* for October last, I have had an opportunity of witnessing its prevalence to a very considerable degree. I was induced at that time to believe it merely an endemial disease dependant on some peculiar exciting power; and as the cases I then saw were confined to the hay-field, I was almost decided in my opinion: subsequent experience has convinced me of my error. Not less than fifty people, of various ages, were affected with it in this town; and some of them had not the slightest connection with the hay-makers, nor were ever in the field, or any where contiguous to it. It is unnecessary for me to again enter into a detail of its symptoms; they are correctly stated in my former paper. The intense burning heat of the skin appears a very prominent feature of the disease, and in no other exanthematous fever have I felt the sensation of heat so strong; the vesicular eruption is evidently the consequence of extreme action of the capillary vessels, thereby generating an increased evolution of heat, and augmenting the natural virulency of the discharge. The sensation it conveys to the patient is exactly similar to a common scald, with a train of concomitant febrile symptoms. But as nothing tends to illustrate the nature of diseases more fully than cases, perhaps the following may not be without interest and utility.

CASE.

— Gray, of Corby, aged four years, was seized on the 31st of August with violent convulsive paroxysms. The child, when I visited her, was perfectly insensible; the countenance was flushed, and a sense of burning heat was perceptible to the touch; the pulse was so rapid as to render its beats almost incalculable. I ordered pediluvium, and six grains of calomel with three of pulvis antimonialis to be given; a repetition was needful before stools could be procured. She voided in the course of the night several copious and fœtid stools, together with fifteen large worms; several vesicles appeared upon the head, which gradually extended until the whole body was more or less affected. September 1st. She is much better; more worms were voided; still feverish and burning; ordered powders with nitre and antimony, and an anodyne at bed-time. 2nd. The irritability of the system is much relieved; her sleep is tranquil and refreshing; pulse reduced; convulsive paroxysm totally subsided; more worms have passed away. Persistat in usu pulverum febrifug. 4th. The child is convalescent. In a few days she perfectly recovered.

Perhaps the irritation induced by the presence of worms in the primæ viæ, may be considered as the proximate cause of the convulsion; and probably that irritation rendered her more susceptible of the prevailing disease; it is evident, however, it must have been conveyed to her by contagion, as she had never been where the disease existed. This was the first time it made its appearance in Corly, two miles distant from this village. Whether it has been prevalent there I am not prepared say; no one having applied to me on that account.

I leave it to superior intellect to establish the theory of this disease, while I content myself with recording the simple facts as they appeared to me during an attentive and sedulous observation to every symptom, change, and peculiarity of the disease.

VII.

A General View of the Diseases usually occurring in Boys during the Period between Infancy and Puberty in Christ's Hospital, exhibited in a Synoptical Table, and accompanied with practical Observations.

By Henry Field, Member of the Society of Apothecaries, London, and Apothecary to Christ's Hospital.

(*Continued from* vol. vii. p. 74.)

	TABLE OF DISEASES.	1816 Dec.	1817. Jan.	1817. Feb.
1	Cynanche tonsillaris	1	5	3
2	——— trachealis			1
3	——— parotidea			1
4	Scarlatina anginosa			1
5	Febris Synochus			4
6	——— Typhus mitior			1
7	Tabes mesenterica		1	
8	Tussis Catarrhalis	3	3	1
9	Pleurodyne		1	
10	Nausea, Gastrodynia vel Diarrhœa	7	6	2
11	Obstipatio	1	1	2
12	Rheumatismus acutus	1		
13	Odontalgia Catarrhalis	1	1	1
14	Otalgia	1		
15	Icterus			1
16	Syncope			1
17	Obstipatio Catarrhalis		1	
18	Urticaria Febrilis	1		2
19	Chorea Sancti Viti		1	
20	Erythema Nodosum			1
21	Prurigo mitis	2		
22	Eruptio herpetica pustulosa		1	
	Totals	18	21	22

The winter quarter has been unusually mild. In the vicinity of London, snow has been unknown. Much rain has fallen, and the weather has been uncommonly windy. The wind almost invariably between south and west, frequently amounting to very severe gales. It has now and then veered to the northward, but has not remained there forty-eight hours together.

The metropolis in general, and the boys in Christ's Hospital in particular, have been very healthy; nothing having a greater tendency to render the air in London salubrious than wind and rain.

With the exception of cynanche tonsillaris in January, and some cases of fever in February, all of which terminated favourably, not any thing has occurred that can require the smallest notice.

VIII.

Cases of Sympathetic Affection of the Brain with the Abdominal Viscera, cured by Purgatives. By WILLIAM NEWNHAM, Surgeon-Apothecary, Farnham, Surry.

SOME years since, my attention was particularly occupied by a number of cases of chorea, and I have often thought of communicating my ideas on this subject to my professional brethren through the medium of the *Repository;* but the execution of this plan has been hitherto prevented. I was again reminded of my intention by a paper in your Journal (vol. vi. p. 266.) and I shall now detail a few cases of chorea extracted from many in my note books; and shall add another case or two of convulsive motions, for the purpose of illustrating the influence of belladonna.

I commenced the treatment of chorea with fervent anticipations from the use of purgative remedies; but I was often disappointed, and was consequently induced to inquire into the cause of my failure. In reasoning on the phenomena of chorea, I arrived at the conclusion, that the ground of my want of success was the adoption of an *empirical treatment.* I observed, that the convulsive motions of chorea were not so much the *disease itself,* as the expression of the sufferings of the system, in consequence of the existence of some local irritation. To believe that a disordered state of the bowels is the only source of irritation capable of exciting this disturbance of the nervous system, demands an extent of credulity which I confess I do not possess. I am aware that this is a *frequent,* but it is not the *only* cause of chorea. And any other source of irritation in any organ of the system, is equally capable of exciting these convulsive motions. In the treatment of this disease, therefore, our object is to ascertain what is the cause of the present disturbance, and to prescribe accordingly. This is another instance in which we discover the errors of *routine practice.* In the present paper I shall first mention some cases of sympathetic affections of the brain with the abdominal viscera, cured by purgatives.

CASE I.

On the 2nd of December 1812, I was requested to visit Miss Morey, aged twelve years. The attention of her friends had been attracted for a day or two by some extraordinary motions, which they had observed she made, and which appeared to them to be involuntary. I considered this to be a simple case of chorea, and ordered five grains of calomel to be taken directly, and a solution of sulphate of magnesia an hour afterwards.

3rd. The spasms continue the same. The bolus and mixture produced but one scanty motion. Repeat the bolus at bed-time, and the mixture in the morning.

4th. No stool. Convulsive motions universal, continuing without intermission even through the night. Ordered a powder of eight grains of calomel and twelve grains of jalap.

5th. One scanty motion of a most unnatural appearance. Ordered a powder of three grains of calomel and three of jalap every two hours till it operates.

6th. No stool. Has taken four of the powders; has had no rest; spasms increased; scarcely a muscle in the body is quiescent; it is with difficulty she is kept in bed. Continuentur pulveres, et exhibeatur enema simplex statim, et vespere si opus sit.

7th. No stool. The glysters have been retained. The patient is even more restless than yesterday. Ordered to take some powders of calomel, jalap, and gamboge, with a mixture of castor oil, and to repeat the injections.

8th. Mercurial fœtor in the breath; she complains of the mouth being a little sore; has had, this morning, several copious and most unnatural evacuations. The convulsive motions have almost entirely ceased, so that the patient is able to lay quietly in bed. She complains this morning, for the first time, of hunger. Omittantur pulveres, et continuetur mistura purgans.

9th. Spasms entirely gone; mouth very slightly sore; has had several motions, and the last of a more healthy appearance. Convalescent.

On the 12th and 13th the bowels were rather costive, and the spasms returned in a slight degree. A dose of calomel produced several pitchy stools, and the patient was again convalescent. She had subsequently no return of complaint. This is a well marked case of nervous disturbance from a vitiation of the abdominal secretions; and the relief obtained was precisely synchronous with the affection of the salivary glands by the mercury. This effect however was accidental; and the cure is to be ascribed to a similar action upon the glandular surface of the alimentary canal, and perhaps too upon the liver.

CASE II.

Miss Bennitt, ætat: 4, was attacked with measles in the autumn of 1813. The epidemic was a mild one: the only instances which proved fatal among several hundreds in my practice, were from affections of the brain. I lost several children by convulsions. Miss B. had the usual high catarrhal symptoms; the disease ran its regular course, and she was declared convalescent on the 4th of November. She was treated in the usual way; but, on the next day, I was requested to visit my little patient on account of her appearing unusually drowsy. She had no stool yesterday.

I found her comatose; she was roused with the utmost difficulty, and immediately relapsed into a profound sleep. Her pulse unusually slow. She has been sick, so as to vomit once or twice; but, even after this violent action, she cannot be kept awake long enough to take any food.

℞ Calomelanos, gr. viij.
Sacchari, gr. xij.—divide in chart. ij. Sumatur una statim, et post horas duas.

—10 P.M. Has taken her powders; has slept the whole day; no attempt to rouse her for a moment has been successful; has taken no food; she has no stool; the pupil is dilated, and insensible to the light of the candle. Ordered the warm bath, and to repeat the powders as in the morning.

6th. 10 A.M. Nearly in the same state; slept profoundly while in the bath, and the whole night, except when, with difficulty, roused to take her medicine. Has had no stool. Repeat the bath, and the powder every two hours till it operates.

— 8 P.M. Just had one copious, fœtid, and dark-coloured motion, and for a few minutes appeared more lively; but she has relapsed into coma. The pupil is still dilated; but though extremely sluggish, it is in some degree sensible to the stimulus of light. Repeat the powders till they have produced one liquid stool.

7th. 10 A.M. Three motions since last evening, and the last of a more healthy character. The patient is sitting up, amusing herself in bed, and complaining of being hungry.

Her pulse has re-assumed its natural frequency, and the sensibility of the retina has been restored. A light diet was prescribed, and a gentle action on the bowels to be kept up. Convalescent.

This is another marked case of the influence of disordered digestive organs on the brain.

Case III.

April 9, 1813, William David, ætat. 12, has been the subject of chorea for a fortnight. He has a violent pain in the head, and throbbing of the carotid arteries. His pulse is full and hard; frequent bleeding at the nose. I withdrew six ounces of blood from the arm, and directed some cathartic medicine.

11th. He took the cathartic medicine yesterday; but the twitchings were almost gone, and have now quite ceased.

Here it is evident, that a preternatural fulness in the vessels of the brain was the cause of chorea, and immediate relief followed the diminution of the volume of blood.

(To be continued.)

AUTHENTICATED CASES, OBSERVATIONS, AND DISSECTIONS.

I.—*A Fatal Case of Convulsions from the growth of Spicula on the Inner Table of the Skull.*

(An Extract of a Letter from the Father of the subject of this case to One of the Editors.*)*

"I have at length sent you the following narrative; but the recollection of an event so distressing to me could not fail of renewing the most painful sensations which you are no stranger to, and which time alone seems likely to soothe:

"Our unfortunate son, at the time of his decease, had entered his twelfth year; he had been delicate from his birth; and as this rendered him an object of particular attention to his parents, so did he become more interesting to them. When he was between five and six years of age, he was attacked with a fever, supposed to arise from a cold; which, at its commencement, was attended with convulsions, coma, contracted pupils, loss of speech, and other symptoms of *hydrocephalus acutus.* These symptoms existed in so great a degree, that he was by my medical friends, Dr. Cholmondley and Mr. Stocker, thought incapable of surviving six hours. At that time it seemed as if a sudden metastasis was effected, in consequence of an erysipelatous inflammation appearing over the body. This cutaneous affection, perhaps, was occasioned by mustard sinapisms applied to the feet by the nurse after the case was given up, and without direction, and which were permitted to remain on so long as to occasion such very severe inflammation and deep ulcerations, that they were three months in healing. This recovery therefore, was slow. From this moment he naturally became the object of increased anxiety and care; and he was rendered still more interesting by the dawning of a mind sensible, amiable, and affectionate. In short, the partiality (you will perhaps say the vanity) of a parent would describe him in the words so feelingly expressed by my worthy friend, Dr. Adams, in his late biographical work, at page 10, seq. To restore him, a sacrifice was made at the expence of education, and it was not till he was eight years old that he was placed at a grammar-school. The character here given of him by the Rev. Mr. Hill, was that of an amiable boy, possessing great quickness and sensibility, *but wanting retention of memory.* At every opportunity he was sent into the country, where he seemed to be more in his element, though even here he would frequently quit his play and recline his head, complaining of head-ache, but without pointing to any particular part, and which in a short time would go off and allow him to return to his sports.

"It was observed that he never slept calmly, but exhibited signs of distress. He always lay on his back with his head thrown so far back, as for the vertex of the head almost to repose on the pillow, and his legs were constantly drawn as much up as possible; as it would now appear to relieve the brain from pressing on the anterior part of the cranium. He never could trot a horse nor ride in a jolting carriage without pain of the head.

"During the late Christmas holidays, he appeared more delicate, and sought solitude. One day, while reclining his head on his uncle's knee, he fell into an epileptic fit, followed by convulsions over the whole body, with complete insensibility and violent moaning. On my arrival, which was within half an hour of the attack, I applied three leeches to each temple, and got down as well as I could (for the teeth were clenched) three grains of calomel. I then sent over to Guy's for my good friends Dr. Cholmondley and Mr. Stocker, his former medical attendants; and on the latter's arrival, we took about eight ounces of blood from the arm, repeated the calomel, and threw up a cathartic enema, with sulphate of magnesia. A blister was applied to the nape of the neck, and he was put into a warm bath for twenty or thirty minutes. Still there was no alvine evacuation, nor the least abatement in the violence of the symptoms. The calomel was repeated with scammony; another enema was thrown up; cupping glasses were applied; and about four ounces of blood drawn, and a fresh blister was applied to the nape of the neck. On Dr. Cholmondley's arrival, the calomel was again repeated at short intervals, with antimonium tartarizatum, and an aloetic enema was injected. A bladder, containing nitrate of ammonia and nitrate of potass in a state of solution, was applied to the head. But, alas! all was without the smallest relief; and, if we except a small alvine evacuation, the stomach and bowels appeared insensible to the drastic remedies that were employed. The convulsions continued unabated for twelve hours; he then sunk from exhaustion, and in two hours more he silently expired.

"But one consolation now remained, which was, if possible, to ascertain that the cause of so violent and cruel a death was irremediable by human art. My medical friends readily pursued this inquiry, and were fortunate enough to discover that from which I draw the greatest antidote to my affliction.

"DISSECTION.

"The brain exhibited no marks of disease, but at the petrous portion of the temporal bone, a little above the foramen auditorius; the cranium was hollowed out into fossæ of unusual depth, between which were pointed eminences; and one in particular projected so much so as to occasion pain on pressing it hard against the finger. In the abdomen there were observed five intus susceptions of the small intestines, but there was neither accumulation of fæces nor inflammation.

"Whether these irregularities were causes or effects of the hydrocephalic attack already mentioned, must remain matter of opinion; but there seems little reason to doubt but that a certain state of excitement was kept up on the brain by them, which might readily enough account for the peculiarities of his mind, with at the same time a want of power to pursue or retain certain acquirements.—Latterly he grew tall, and in this general ossific elongation the unfortunate spicula were doubtless included, by which that irritation was increased to an unbearable degree*. The intus susceptions of the intestines might have been occasioned by the convulsions, or from the action excited by the drastic purges.

"You will perceive, my dear Sir, that I have mingled with this account many circumstances not perhaps necessary or very closely connected with a medical case. These of course will be uninteresting to every one but such as have experienced a similar affliction. Of such I need ask no indulgence:—from you, as a parent, I shall receive it unasked."

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* There is a case related by Dr. Wells in the Trans. of a Soc. for the Improvement of Med. and Chir. Knowledge, vol. iii. p. 91, where convulsions had supervened upon a blow on the cranium, and the trephine being applied on the part, a very sharp spiculum was discovered on the inner table of the bone, which, when removed, the convulsions never returned, except when the patient went into violent passions.—EDITORS.

LI.—*Fatal Case from Inflammation of the Vein, occasioned by the Operation of Bleeding.*

Wm. Dunn, a gardener, on Wednesday, 29th of January, whilst wheeling a barrow filled with earth, suddenly slipped and fell down on his right side, which gave him considerable pain, although no serious injury appeared to have been sustained.—On Friday he went to Guy's Hospital, and was bled in the right arm; after which he went back and immediately returned to his work, which was then very laborious. He continued working without paying any attention to his arm till the afternoon of the Monday following, when he complained of excessive lassitude and pain in his head, accompanied with rigors and great thirst. He also felt great tenderness and stiffness of the arm from which the blood was extracted, and which rendered him incapable of extending it. On Thursday, February the 6th, he went to St. Thomas's Hospital to be received as a patient, but was not taken in. During all this time he had been without medical assistance, being in great distress. A lady requested the Reporter to see him; which he did on the Saturday evening, eight days after being bled. His arm was very tense, tender, and incapable of extension. He complained of pain throughout the whole of his right side, but particularly about the knee. His right leg was drawn up, and the calf of it was was much discoloured, nor could he extend it in the least degree. He was excessively low, almost unable to take food or drink; his extremities were cold, and the pulse intermitting. His bowels had been very much constipated, having had only one stool since he was bled. Evacuations were procured by pills with extract of colocynth and calomel; four leeches were applied to the arm, and afterwards evaporating lotions upon his arm, side, and leg, which greatly relieved the pain; and wine with cordial and tonic medicines were given. Cold clammy sweats very soon came on, and he died in about two-and-forty hours after the Reporter saw him.

EXAMINATIO POST MORTEM.

The body was examined twenty-eight hours after death. There appeared to have been great inflammation of the lungs, with extensive adhesion between the right lobe and pleura.

Matter was found in the vein where he was bled, extending about three inches above and below the orifice.

LII.—*Fatal Case from puncturing the Finger in dissecting a Corpse.*

Mr. Thomas Archer, late a dresser to Mr. Foster, senior surgeon of Guy's Hospital, was, on Tuesday, February 11th, 1817, engaged in examining the body of William Dunn, (the subject of the preceding case,) who died on the day before from the effects of inflammation of the vein, consequent upon the operation of bleeding.

Whilst using a needle, and in the act of closing one of the incisions, he unfortunately punctured the middle finger of the left hand. It at the time gave him excessive pain; but he still continued dissecting. On Wednesday the 19th he complained much of the finger, which shewed scarcely an appearance of inflammation save a small spot in resemblance much like a flea bite.

He attended that and the following day to his studies; but on the latter day he was very evidently labouring under constitutional irritation. Toward the evening of this day, the axillary glands became affected with very considerable pain, swelling, and hardness; and it was with some difficulty that he could walk home from the hospital. He now for the first time applied a poultice to his finger, which seemed to concern him but little, as the pain had almost entirely removed to the axilla, where he felt excruciating pain upon the slightest attempt at motion. An evaporating lotion was applied to that part; and, upon going to bed, he took a dose of Ext. Colocynth cum Hydrargyri Submuriatis.

Friday the 21st, in the morning, he was much worse, having had an extremely restless night. His bowels were relieved three times from the operation of the pills. He took very little during this day except diluents to quench his thirst and promote perspiration.

The axillary glands were become very considerably enlarged and painful. There was some tumefaction of the pectoral muscle; an accelerated pulse; and a white and dry tongue. He took Hydrargyri Submuriatis gr. v. et Opii gr. i. at night, and a dose of a febrifuge diaphoretic mixture every six hours. Twelve leeches were immediately applied to the axilla and the parts adjacent, the bleeding from which was very copious. The part was afterwards fomented; one hour after which it was covered with a warm bread and water poultice, which was removed every four hours. The hand was also encircled by another poultice, and the whole arm was surrounded with hot chamomile flowers, which were renewed also every four hours. The following mixture was prescribed:—

℞ Magnesiæ Sulphatis ℥ss.
Tincturæ Sennæ ℥ss.
Infusi Rosæ ℥vss.

to be given alternately with the other mixture.

Saturday 22d. He passed a restless night, but complained less this morning of pain. A pulse quick but soft; much thirst; furred tongue; no appetite. The medicines and applications were continued, and an opiate was ordered to be taken at night, which procured much sleep.

Sunday 23d. An increase of pain and tumefaction. The functions of the brain appeared somewhat disordered; pulse 120 but soft; tongue partly covered with a brown fur; debility very great, and extreme thirst.

Twenty-four leeches were applied to the part, and he was ordered to take beef tea, sago, arrow root, &c. and to continue the medicine with only half the quantity of Sulphate of Magnesia.

Monday 24th. He had passed a better night, and expressed himself to be very much relieved. He slept very much during this day and the following night with slight wanderings.

There had been but little alteration up to this period: but now the symptoms indicated the formation of matter, which had been so solicitously endeavoured to be prevented; and a generous diet and the cinchona were therefore directed. In the evening of this day there was an acute pain on the left side, below the ribs, which increased upon coughing and inspiring deeply.—To this part the following lotion was frequently applied:—

℞ Sp. Rectificati ℥ij.
Liq. Ammoniæ.
Acet. Aq. Rosæ āā ℥vij. M.

and a cold poultice of the same with bread was applied to the axilla and over the pectoral muscle.

Tuesday 25th. Rather relieved. He was now attacked with a severe diarrhœa, for which the Mist. Cretæ cum Conf. Arom. et Tinct. Opii were directed.

Wednesday 26th. Much as yesterday; diarrhœa continuing, an enema with Tinct. Opii ♏ xxx. was injected in the evening.

Thursday 27th. The pain and cough and difficulty of respiration increased. The side was punctured, when twelve ounces or more of well-digested pus escaped. This very much relieved the breathing and pain: the bowels were the same. The mixture was continued, and the enema repeated.

Friday 28th. Rather better. Diarrhœa still continues. Rep. Enema cum Tinct. Opii. ♏ 50. There were on this day two copious discharges of matter by the bowels.

Saturday, March 1. An increase of pain. Another incision was made, and a large collection of matter discharged, which had been confined under the pectoral muscle. Bowels the same. Rep. Enema ut heri.

Sunday 2d. Pain in the side very severe, and the cough increased. Another discharge of matter from the side to the extent of nine or ten ounces. Continues to take a good quantity of nutriment, and about six glasses of port wine in the twenty-four hours. Bowels remain very irritable. Cinchona ordered ter in die cum Tinct. Opii ♏ xij. in each dose.

From this time the symptoms became more unfavourable; and in three days more this unfortunate young gentleman fell a sacrifice to the ardour with which he had pursued his anatomical studies.

PART II.

ANALYTICAL REVIEW.

I.

Practical Observations on the Diseases of the Urinary Organs; particularly those of the Bladder, Prostate, and Urethra. Illustrated by Cases and Engravings. By JOHN HOWSHIP, Member of the Royal College of Surgeons, &c. 8vo. pp. 275. London, 1816. Longman and Co.

THE character of Mr. Howship as a minute observer is not unknown to the profession; and from the habits of attention which his microscopic investigations may necessarily be conceived to have confirmed in him, it might not unreasonably be expected, that any practical remarks which he would think worthy of being laid before the public should at least bear the features of peculiar accuracy. This is by no means, however, a fair criterion; for the varying aspect of disease, and the fleeting physiognomy of the symptoms it presents, require very different habits of observation from those which are necessary for correctly determining the more permanent characters of organic structure. We offer these remarks in order that too much may not be expected of an author, who, although he has obtained considerable credit as a physiologist, yet has still to learn how the public will appreciate his talents as a practical observer of diseases.

We are informed, in the Introduction, that the greater part of the information contained in the volume before us, is the result of the author's own professional experience, and that his object is "to bring under one general view the symptoms and treatment of most of the diseases of the urinary organs," together with the appearances which the parts affected present in the various stages of these diseases. It is our duty to examine how far, and in what manner, he has accomplished this task.

The first chapter treats of "the symptoms, causes, and appearances produced by disease in the kidney;" and is divided into six sections, embracing the following subjects:—

> "1. On the Structure and Functions of the Kidney.—2. On Inflammatory Affection, and increased Secretion of the Kidney.—3. On Calculous Affections of the Kidney.—4. On Irritation and Abscess of the Kidney.—5. On Renal Hæmorrhage.—6. On Distention of the Kidney, and the Formation of the Hydatids."

In stating the symptoms of inflammation of the kidney, our author does little more than quote the definition of Cullen, overlooking some symptoms very characteristic of this morbid state of the viscus: thus, for example, that peculiar catch of respiration which attends acute renal inflammation, and which depends on the communication of the inflammatory action to the diaphragm, is not at all noticed. In describing the formation of calculous matter in the kidney, and the general nature of the different calculi formed there, an instance is mentioned in which the pelvis and infundibula of the left kidney were found "full of a compact earthy substance, in consistence resembling bird lime, of a pale yellowish grey colour," which, on analysing, was found to be carbonate of lime; but this, however curious, is not the only instance in which carbonate of lime has been secreted by the kidney.

Noticing the effects of irritation of the kidney, Mr. Howship properly remarks, that the appearance of purulent matter in the urine is not always to be regarded as a symptom of the existence of an abscess, or even of ulceration of the kidney; for, in long continued irritation, "the increased mucous secretion from the internal parts of the kidney may by an insensible change take on all the characters of purulent matter, without any part of the secreting surface having ulcerated." The fatal result of abscess of the kidney, when it does not burst into the pelvis of the organ, and the matter pass off by the ureter with the urine, is stated to proceed "from the long continued irritation and purulent discharge." But fatal instances of abscess of the kidney are on record*, in which the matter was never discharged during life; and in which the viscus enlarged in proportion to the formation of its morbid contents, until it at length became one enormous cyst of purulent matter. In one instance of this description which fell under our own notice, the diseased kidney weighed fifteen pounds, and consisted of three distinct cysts, filled with pus.

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* *Boerhaave* Aphor. 1002. *Morgagni* Epist. 68. Art. 4. *Bonetus*, vol. ii. p. 569.

On the subject of ascertaining the existence of Renal Hæmorrhage, Mr. Howship remarks, that the appearance of a trifling quantity of blood in the urine "may be at once decided by dipping a bit of linen into the urine, which if it contains blood will leave a clear red stain upon the cloth," an effect which does not occur when the urine contains no blood, however high coloured it may be. Blood, however, may be passed in considerable quantity with the urine; and, notwithstanding the presence of pain in the loins, may not come from the kidney. We conceive one of the best diagnostics of blood passed by urine being renal, is the dark coffee colour of the urine, unless the blood be in very great quantity; in which case, the other symptoms of calculus assist in determining the point. Our author ascribes the distension of the kidney to the accumulation of the secreted fluid in the cavities of the viscus, by "the flow of the urine being interrupted;" and this from pressure gradually changing the structure of the gland: and the formation of hydatids, he ascribes, to a morbid condition of the cellular tissue "immediately behind the membrane lining the cavities of the gland," owing to which "serous fluid is deposited at certain points, and as this fluid accumulates, the pressure from within operates by condensing the cellular structure, so as to form cysts which become detached from the surrounding parts." Neither of these opinions, however, are satisfactory to our minds. In the first place, it is an assumption to assert, that an interrupted flow of urine will produce the effect here ascribed to it; as calculi have been found filling the whole cavity of the pelvis, so as to produce complete obstruction, without any great degree of enlargement following, which could not be accounted for by the inflammation excited by the irritation of the calculus; and we should be slow to admit that hydatids are merely cysts formed by the condensation of the cellular tissue. We believe that the first of these states is the consequence of chronic inflammation, however that may have been originally excited.

The second chapter contains "the treatment of disease of the kidney," and is divided into sections corresponding to those of the first; which are followed by a detail of cases illustrative of each of the modifications of disease described. In inflammation of the kidney, Mr. Howship very judiciously places his chief reliance on bloodletting, either general or local, according to the strength, constitution, and age of the patient, and on the use of the warm bath. Inflammation, however, of this organ, when it comes on without any apparent cause, "towards the turn of life," or depends on gout or some other disease sympathetically affecting the kidney, requires infinite caution in its management. Two cases are given with the view of illustrating this position; but the second cannot be regarded in any other light than as a fatal case of gout, in which the head was particularly affected; as no symptom existed, except irritation about the neck of the bladder, with a rose pink deposit in the urine, and an oily appearance of its surface, which are common in severe attacks of gout, to authorise the inference that the kidneys were particularly affected.

In calculous affections, when from the deposition of reddish brown sand, or powder, in the urine, there is reason to suppose that uric acid prevails in the renal secretion, magnesia is properly stated to be the remedy which is chiefly to be depended upon; but the too long continuance of its use is judiciously reprobated, from the tendency which both it and the alkalies when long taken give to a copious deposition of the phosphates. When the phosphates prevail, the citric and carbonic acids are more particularly recommended by our author; who states, what we believe is now admitted by every observing practitioner, that uva ursi, notwithstanding De Haen's high recommendation of it, possesses no particular claim to attention in irritation of the urinary organs, attendant on calculous affections. This section is illustrated by three cases. In the first, a deposition of the phosphates was removed by the exhibition of muriatic acid. The urine, which was loaded with mucus, let fall a copious deposition of white sand with a "few particles of red gravel." The patient complained of great pain in the region of the kidneys, with much uneasiness in the bladder, which produced a constant micturition; while, at the same time, there was a retraction of the right testicle, "and a sense of numbness extending down the fore part of the thigh." The dose of the acid exhibited was ten drops, taken in water, three times a day, for a month. The second is one of renal calculus voided with the urine, of little interest: and the third is a fatal case of ulceration, with calculi in the kidneys, extracted from a MS. of the late Mr. Watson, in which the immediate cause of death appeared to have been the escape of urine into the cavity of the abdomen, through an opening made by the stone in the pelvis of the kidney. The only treatment that can be pursued in abscess of the kidney, is discharging the matter, by an operation, when it presents itself near the surface of the body; but our author, properly, cautions practitioners against leading a patient or his friends to regard even this as a means of eventually removing the disease, or averting its fatal termination. Three interesting cases of abscess of the kidney are detailed; in the third of which the matter was discharged by Mr. Heaviside, by dissecting down to the tumor, which was in the region of the liver, and plunging into it a flat hydrocele trocar. Five pints and a half of matter were discharged, and subsequently eight ounces; but the patient gradually became hectic, and died.

In renal hæmorrhage, when the loss of blood is considerable, and the pulse materially reduced, Mr. Howship considers that alum as an astringent, and "acetate" [superacetate] of lead as a sedative, are the remedies to be chiefly depended upon; and, "not only in this, but in most of the other varieties of internal hæmorrhage." In distension of the kidney little can be effected by medical treatment. When the cause is a calculus impacted in the pelvis or the ureter, the only means, we are informed by our author, are "the full exhibition of anodynes and opiates." In one instance, which came within our own experience, and in which a calculus was taken, after death, from the pelvis of the right kidney, that weighed two drachms six grains, the most marked relief was obtained from salivating the patient. The mercury was exhibited in conjunction with diuretics, with the view of relieving ascites, under which the patient also laboured: and, as soon as the salivary glands were fully affected, the urine, which at other times was of a dark coffee colour, became quite clear, and the pains left the loins. That this was the result of the action of the mercury was evident, as the pains returned soon after the salivation ceased; and a second year, on the return of the ascites, the same results followed the exhibition of the mercurials. The kidney, in this instance, was not very much distended; but it contained pus, and bore evident marks of inflammation.

The third chapter, in which our author discusses "the symptoms, causes, and appearances, produced by disease in the bladder," is divided into thirteen sections. In the first a brief sketch is given "of the sympathies of the urinary organs," which are considered as depending on the numerous although small nerves with which they are supplied, and "the lateral connections which the ganglia of these nerves form with each other," as well as the similarity of structure of the parts. The second section enumerates the symptoms of irritable bladder, while the particular causes of irritation are investigated in the four that follow. When gravel is the source of the irritation, the appearances of it in the urine, the pains in the loins, and the deranged state of the digestive organs, readily point it out. The extent to which the bladder is affected by this cause, as exhibited by dissection, is well described. Besides the increased vascularity, and consequent increased secretion, produced on the inner coat of the bladder, Mr. Howship observes that "minute crystals of calculous matter, partially involved in the secreted mucus, have come into contact with the inner membrane, exciting an excessive inflammatory action, with effusion of coagulable lymph," and being permanently fixed in their situations by a stratum of effused lymph, give that appearance of partial slough, which is occasionally seen "attached to the surface of the inner membrane" of diseased bladders. In some instances, these patches of calculous crystals occasion the diseased coat of the bladder "eventually to throw up a weak irritable vascular fungus, projecting into the cavity, much disposed to bleed from the slightest cause, and possessing in this respect as well as in others, the characters belonging to cancer, while the intermediate parts of the bladder are still found to remain undiseased." When the irritation proceeds from stone, the distressing pain which accompanies it is chiefly excited by exercise, and the effort to void urine, which generally suddenly stops the current of the fluid, bringing forward the calculus, so as to press upon the neck of the bladder, and excite spasmodic action in it. A discharge of blood is occasionally produced by the irritation of the stone on the inflamed neck of the bladder, rupturing some vessel; but this is seldom great: and more frequently the urine contains a dense and preternaturally consistent mucus "thrown off from the inner membrane of the bladder." In some positions of the stone, the symptoms are referred to the rectum; and, in one case of this kind mentioned by our author, the error was not discovered until the death of the patient, when "a large stone was found lying at the fundus of the bladder, but the structure of the intestine was perfectly natural." Sometimes, however, as accurately remarked by Mr. Howship, even several calculi may exist in the bladder without occasioning the least degree of excitement or irritation. Sympathy with the surrounding parts is also pointed out as the occasional cause of irritation in the bladder, and this may be excited by cancerous uterus, or by worms in the rectum, or a contracted or scirrhus state of that portion of the intestines, or stricture in the urethra, and even by inflammation of the glans penis, the membrane which is spread over it being a continuous surface with the mucus membrane of the urethra, and that which lines the bladder.

Mr. Howship details one case, in which, from the symptoms being so like those of the stone, the patient was repeatedly sounded, and the irritation was completely relieved by a dose of calomel, which brought away eleven living insects. "They were all," he observes, "obviously of one and the same species, the length was about three eighths of an inch, and with the assistance of a magnifying glass, the head, thorax, with the legs, and an elongated abdomen, were very distinctly seen." Although a knowledge of the name of this insect would not have added to the strength of the fact that the irritation it excited in the rectum produced the effect described on the urinary organs, yet, we regret that our author did not at least endeavour to ascertain the genus to which it belonged, or had the greatest affinity. Mr. Howship is of opinion, that, although the coats of the bladder "may take on diseased action very much resembling cancer," yet that every affection of this nature is "the evident consequence of former irritation:" and that the only instances of spontaneous disease taken on by this viscus, which he has seen, were two cases of fungus hæmatodes.

The remaining sections of this chapter refer chiefly to the symptoms and the consequences of stone in the bladder. The very equivocal nature of the symptoms of stone is well pointed out; and as these alone, "however clear or conclusive they may seem to be, can never warrant a positive opinion as to there being a stone in the bladder," our author properly next investigates "the operation of sounding." As the metallic sound cannot always be brought into contact with a stone in the bladder, in any position of the body, he recommends the employment of a gum elastic catheter, without a stilet, for demonstrating with certainty the existence of a calculus: but although we agree with him, that notwithstanding this instrument, in the majority of cases, is well adapted for that purpose, yet we have known more than one instance in which it produced a fallacious diagnosis. With regard to the disappearance of the symptoms of stone, and the formation of sacculi in the bladder, Mr. Howship's opinions are new, and, with some exceptions, in our opinion conclusive.

Relying on the truth of John Hunter's theory of the blood possessing a vital power, he conceives that "the gelatin or fibrin of the recent coagulum of blood may be considered as very nearly parallel to the muscular fibre," and possessing the same measure of vitality; and consequently that the action of chemical agents upon the muscular fibre of the constitution, is well illustrated by their effects "upon the fibrin of the blood out of the body." Alkalies are capable of dissolving the fibrin out of the body, and hence he supposes, as they may also act in a similar manner on living matter, their power of allaying the irritation of stone, instead of depending altogether "on their checking the excessive separation of uric acid by the kidneys," may be, in part, owing to their solvent power acting on the coats of the bladder, and their "slowly and gradually abstracting from the inner surface of the urinary bladder a certain proportion of its excitability, diminishing upon this principle, not only the disposition, but the power also, for contraction and excitement." But although we do not fully admit the accuracy of our author's premises, and firmly believe that alkalies can exert their chemical action on the animal fibre only after the life of the part is destroyed; yet, his conclusions are so ingenious that we cannot avoid admitting their conviction. We will leave the author to explain them in his own language:—

"It is sufficiently evident that where the exhibition of remedies operating upon this principle is continued for any length of time, the extent of their influence upon the coats of the bladder will go on progressively increasing, and the power of contraction in the muscular coat which was at first only moderated, will in time become weakened, and what will naturally be the result of this change? We know that as the operation of the remedy takes place through the medium of the urine, all parts of the surface of the cavity must be equally acted upon, and whether the muscular coat of the bladder happens to possess every where exactly the same degree of strength or not, still the influence of the alkaline principle is sure to deprive every part of the cavity of an equal measure of its irritability and power of contraction, and consequently should any particular point have been rather deficient in strength, it is by this means obviously set upon a much more unequal footing with the other parts of the general cavity than it was before, and therefore it gradually gives way in the act of expelling the urine, so as eventually to form a pouch, or sac; for let the thickness instead of the strength of the bladder be the question, and while the general thickness be 3-8ths of an inch, a single point be 2-8ths only, and let 1-8th be removed equally from every part; it is evident that while the thicker parts are reduced to 2-8ths of an inch, the deficient point will now be 1-8th only, or one half, instead of two-thirds the thickness or strength of the remaining parts of the bladder.

"The exhibition of the alkalies, however, produce, in some instances, so much derangement of the stomach as to render it impracticable to continue them, and in most cases they prove so disgusting, that if the patient has been able to go on with them until the symptoms give way, they are then very soon laid aside; and should the calculus in the mean time fortunately have found its way into a recess or pouch, the happiest effects frequently follow. The state of the stomach very effectually induces the patient to adopt such a regimen as is best calculated to enable the constitution to recover its wonted vigour, and by the same means the tone of the muscular coat of the bladder improves; and the first effect of this improvement is a degree of contraction excited round the calculus, in the cyst; and as the muscular fibres naturally contract most, where the resistance is least, the orifice becomes the smallest part of the sac, and this circumstance explains why a calculus once encysted rarely becomes again troublesome to the patient."—p. 80.

After stating the fact that the irritation of stone in the bladder may be productive of such an effusion of coagulable lymph, as to occasion the adhesion of a calculus to the coats of the viscus, Mr. Howship proceeds to the consideration of "the operation of lithotomy." The importance of ascertaining the presence of the stone in the bladder, is properly insisted on. It should be distinctly felt by the metallic sound, not only by different persons, previous to the operation being determined upon, but also by the surgeon at the commencement of the operation; "for a stone that has been long lying loose in the bladder, may subsequently become encysted;" and if this happens just before the operation, "the surgeon," observes our author, "may be completely foiled in his attempt to find the stone." Now, although we do not think this event likely to happen in so rapid a manner, yet the precaution is necessary. The state of the patient's health must also be carefully considered, as the operation ought not to be performed should the prostate gland be much enlarged, or otherwise diseased, or fistulous abscesses exist in perinæo, or the vigour and strength of the constitution be materially impaired. The appearances and structure of urinary calculi, which form the subject of the last section of this chapter, are well described.

The fourth chapter contains "the treatment of diseases of the bladder." The first noticed is irritation, and this, as it depends on a variety of causes, consequently requires a varied treatment. In all cases, however, it is justly remarked, when irritation has attained to a certain point, "it may be necessary to have recourse to some further measures for its relief, than those which are merely directed to the removal of the original cause of the complaint;" and the remedy which immediately presents itself as the best means of alleviating the sufferings of the patient is opium. The best mode of exhibiting opium in urinary irritation is certainly that of enema; and Mr. Howship directs the tincture to be used to the extent of "sixty or eighty drops in some warm thin starch or gruel, with a table spoonful of olive oil." We have seen it much more immediate in its effect, when a solution of two or three grains in half an ounce of vinegar, properly diluted with warm water, was employed: but certainly the most convenient form for the patient is the introduction of the opium in substance into the rectum, as noticed by our author. Hyosciamus and aconitum in the form of extract, are mentioned as substitutes for opium when its preparations confine the bowels; but if pain be the symptom to which our attention is directed, nothing but opium can be relied upon. Two very interesting cases, illustrative of irritation of the bladder are detailed. The first, which was connected with stricture of the urethra, on examination after death displayed all the coats of the bladder, except the peritoneal, destroyed in some places, "and in others converted into a loose membranous, fungous, or cancerous structure;" while at the fundus, where both the muscular coat and the inner membrane were entire, "the surface was crusted over with sabulous sandy matter." In the second, in which the affection of the bladder was completely sympathetic with stricture of the rectum and other diseased states of the intestines, "its structure" (that of the bladder) "was undiseased, but it was exceedingly contracted, and consequently much thickened in its coats. The cavity was scarcely capable of containing a table spoonful of fluid. The inner membrane was astonishingly vascular, and of the brightest scarlet colour."

When stone is the cause of the irritation of the bladder (p. 120), our author properly prefers the radical to the palliative treatment. The various modes of performing the operation of lithotomy are detailed; and in particular the different steps in the lateral operation, as now more generally adopted, are described with so much perspicuity, that we recommend the perusal of it to the particular attention of our junior readers. A successful case of adherent calculus is given, which was operated on by Mr. Heaviside, and the adhesions separated; and notice is taken of a remarkably large calculus, in that gentleman's museum, which weighs four ounces and six drachms, and was spontaneously passed by an old negro woman at Bahia in Brazil. We agree with Mr. Howship, that no dependence is to be put on the injection of solutions of alkalies into the bladder, with the view of dissolving a stone, as recommended by the French chemists; but it should not be overlooked, that in the event of the calculus being composed chiefly of carbonate of lime, a rare case we must admit, the injection of diluted muriatic acid into the bladder is authorized by a recent successful instance of its employment*. In fungus hæmatodes of the bladder, nothing remediable can be effected.

In the fifth chapter, Mr. Howship treats of disease in the prostate gland; and, after describing the situation and structure of this gland, immediately enters upon the investigation of the causes and appearances of disease in it. It rarely, he remarks, becomes the seat of disease befere sixty years of age, unless in cases of injudiciously treated gonorrhœa, when "the mucous membrane lining the cavity of the neck of the bladder, and with it the prostate gland, are [is] liable to become affected." These affections are, however, merely transitory, and in the opinion of our author, seldom or never "lay the foundation for future disease in the part:" but when stricture is induced, and the disturbed state of the gland is kept up by the increased difficulty with which the bladder expels its contents;

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* Vide *Repository*, vol. vi. p. 431.

"it may in this way form a ground-work for future disease." The different parts of this gland are not always the seat of disease at the same time; for sometimes the lateral lobes are affected, and at others the small posterior or third lobe only is found more considerably enlarged, or changed from its natural state, or passing on "to the formation of abscess: but whichever is affected," the features of the disease bear a striking resemblanse to the common appearances arising from scrofulous action in other glandular parts of the body." The symptoms denoting disease in the prostate gland are clearly described; and our author conceives a diagnostic indication of the part affected may be drawn from the degree of progressive increase of the difficulty of passing the urine in comparison with the increase of swelling in the gland, and the degree of irritability in the bladder: those being less when the lateral lobes are the seat of the disease than when the posterior lobe is affected, which from its more immediate contact with the mucous membrane lining the bladder sooner excites a sympathetic irritation, and also from its position operates more quickly as an obstructing cause to the flow of urine, by raising up and forming preternatural and transverse folds of the mucous membrane, "where it is connected to the lateral parts of the gland." In the enlargement of the prostate its secretion is altered, usually becoming much increased, and more tenacious and ropy than in its healthy state, whilst the urine in which it is contained, throws off an offensive odour, and passes "readily into a state of putrefaction." The secretion of urine, also, is materially affected, particularly when the progress of the obstruction offered by the enlarged gland is rapid and considerable; owing, in our author's opinion, to "the resistance from the full bladder preventing the flowing in of more fluid by the ureters," the consequence of which is pressure in the cavities of the kidneys and "a sudden arrest of secretion." But we are inclined to ascribe this result rather to a sympathetic irritation being communicated along the ureters to the kidneys, the natural effect of which must be a diminution of their secreting powers.

The effect of disease in the prostate and of strictures in the urethra, reciprocally producing each other, is pointed out, and the importance of ascertaining the primary affection insisted on. When the gland is the original seat of disease, any subsequent contractions will "commonly possess the characters of spasmodic stricture;" and a little attention to it will soon establish the accuracy of the opinion. Mr. Howship properly condemns the placing reliance on any mode of examining the gland but by the rectum. He is of opinion, also, that when an enlarged prostate passes into suppuration, it is impossible "to distinguish with accuracy by the course of the symptoms, at what particular period either the suppuration or its preceding inflammation took place." In noticing the consequences of abscess, the small calculi sometimes found in the cavities of the abscess, are supposed, when they are not evidently small stones which have dropped into them in their way from the bladder, to differ "in composition" from "the more common kinds of urinary calculi:" but it is to be regretted that our author rests this opinion merely on their "peculiar porcellaneous polish," when the fact might be so readily established by analysis.

Having finished the examination of the diseases of the prostate, Mr. Howship passes on to the consideration of their treatment. When the disease arises from the stricture, or during an attack of gonorrhœa, it is so transitory as to require but little attention, as it generally subsides when the obstructions in the urethra are removed, or the gonorrhœal irritation restored "to its proper seat at the anterior extremity of the urethra." But when the disease is not secondary on these affections, and occurs in the decline of life, it requires more attention. In the early stage it may be much relieved, and often altogether removed, by quiet, rest, temperance in every respect, an antiphlogistic course, the hip bath, and an occasional opiate at night; but when the difficulty of passing the urine becomes considerable, this must be drawn off by a proper instrument, and the gum catheter of a full size is justly preferred for this purpose. When the gum catheter cannot be introduced, a silver one must be tried, "and by varying the direction of the point, together with the degree of pressure, it will in general overcome the resistance and pass into the bladder;" and when it has passed, we are properly recommended to leave it as long as will allow an impression of its figure to be made upon the sides of the tumour, by which means the introduction of a gum catheter immediately afterwards is much facilitated. The catheters employed, whether they are silver or gum-elastic, should be of a full size; for with the broad point of such, as Mr. Howship justly observes, there is less danger of taking "a wrong direction" than with a smaller sized instrument. When the introduction of the catheter is requisite for emptying the bladder, in order to relieve the kidneys, when "the enlargement of the prostate has gone so far as to produce considerable difficulty in expelling the urine," it becomes a matter of some consequence to ascertain the length of time which may be allowed to pass between the periods of drawing it off. This certainly must in every case be regulated very much by the state of the bladder; and we are informed that, when this organ has never before been subject to disease, the catheter is seldom required to be introduced more than twice a day; but when it has previously suffered, and "since that period the patient has been in the habit of passing his water at short intervals," the instrument will be required to be passed "with a frequency conformable as nearly as may be to the acquired habit of action in the bladder."

The contraction in the urethra, produced more immediately by an affection of the prostate gland, is "clearly a spasmodic action of the muscular fibres of the urethra," and like other spasms is removed by the warm bath, rest, and opiates; but when the disease of the prostate is connected with permanent stricture, it is necessary to dilate this cautiously "by carefully passing a bougie, so as just to pass the strictured part of the canal," and when it is sufficiently dilated to pass a flexible catheter. When the catheter has been introduced, the repetition of the operation, "if it is found necessary," observes our author, "forms the most proper, because the most gentle mode of treatment for the stricture, provided the size of the catheter is increased as quickly as the state of the parts will admit." When this form of the disease is complicated with the deposition of gravel, the case becomes extremely distressing, and the degree of irritation often prevents the continued use of these remedies, which correct the action of the kidneys and induce no inconvenience in a more healthy state of the parts. If abscesses, at length, form in the prostate, fomentations, opiates, and antispasmodics, are the remedies recommended: but, as it is truly remarked, "the efforts of art generally prove unavailing, and the patient is eventually exhausted by the combined effects of long continued discharge, frequent irritation, and constant pain." Three cases are described, to illustrate the modifications of disease in the prostate.

The seventh chapter, which is the most interesting and useful in the volume, treats of "the symptoms, causes, and appearances of disease in the urethra." Our author first enters upon the examination of "the structure and functions of the urethra," and conceives that the proofs in favour of the muscular structure of the membrane of this canal are perfectly decisive; an assertion in which we think he is fairly borne out, both by the direct and the analogical facts connected with its functions. Admitting these as the grounds of his reasoning, he readily explains the nature of spasmodic stricture, and also the change which converts this into permanent stricture. With regard to the question, whether astringent injections used for the cure of gonorrhœa operate as an occasional cause of stricture, Mr. Howship remarks, that although "it is certainly not possible to *prove* that they have done so," yet, from the observations he has been enabled to make, he is convinced that, "through the medium of inflammation, they not only leave stricture, but stricture of the worst and most obstinate kind." The more irritable portions of the urethra are its membranous and bulbous parts, and hence these are the most frequent seat of stricture. In describing the symptoms produced by this diseased state of the urinary canal, the distinction between that sympathetic irritation which it occasions at the "anterior extremity of the canal, with an increased secretion from the membrane lining that part of the urethra," and gonorrhœa, are well pointed out. In stricture the discharge is more sudden, and the inflammatory symptoms are more moderate than in gonorrhœa. The spontaneous subsiding of the discharge is also regarded as a diagnostic feature of stricture; but this can scarcely be taken advantage of; as, where the nature of the attack is doubtful, it is not likely that time will be allowed to ascertain the point; and the hasty employment of injections, which is a too common practice in suspected gonorrhœa, may bring on stricture, or render the disease more formidable, when it already exists. The irritations produced by strictures are less fully stated by our author than we expected to have seen them, no mention being taken of the sympathetic effects they excite in the digestive organs and chylopoetic viscera; or, even of Herpes preputialis, a local irritation, which is frequently the only evident symptom of the existence of stricture, when slight and of a spasmodic character. The mode in which the subsequent consequences of the disease, ulceration of the urethra, abscess, and fistula, are brought about, is thus explained:—

> "The frequently repeated and almost unavailing exertions of the bladder to get rid of its contents, keeps up a constant pressure of urine against the sides of the urethra behind the stricture, in consequence of which this part of the canal suffers a gradual enlargement; but the same cause continuing to operate, the effect does not stop here; irritation supervenes, and this imperceptibly runs on to inflammation, frequently followed by a considerable effusion of coagulable lymph upon the surface of the inner membrane. Ulceration of some part of the inflamed surface subsequently takes place, and the urine makes its way out into the cellular membrane around the urethra, thus producing an œdematous tumor either in some part of the perinæum, or scrotum, or both. In this way the irritation of the urine effused into the cellular structure, usually excites a sloughing inflammation beneath the integuments, in the neighbourhood of the perinæum, and either abscess or mortification, according to the state of constitution, is the result."—p. 194.

The last section of this chapter refers to the cartilaginous stricture, which our author regards as a change produced by the long continued irritation of the bladder, consequent on ordinary, permanent, and spasmodic stricture. If "the textùre of the stricture becomes so firm that although the extent of the contracted part of the canal may still be inconsiderable, it nevertheless opposes a resistance that cannot be overcome by force;"

and, after death, "is sometimes found to possess a degree of firmness very nearly equal to that of cartilage." The eighth chapter discusses "the treatment of the diseases of the urethra." In spasmodic stricture, the object of the employment of the bougie is said to be the relaxing the contracted part of the canal; but we conceive much more is to be ascribed to the pressure of the bougie in the membrane of the urethra, rendering it less irritable, and consequently less susceptible of these sympathetic impressions, which are undoubtedly the more frequent causes of this modification of stricture. In enumerating the various kinds of bougies in use, Mr. Howship justly gives the preference to that made of wax; although, where the contraction is complicated with disease of the prostate, he prefers the gum-elastic bougie. With respect to the cause he assigns for this preference, "the superior softness which enables the elastic-gum to follow with facility the course of the canal," we cannot concur with him; for, certainly, if softness be the most desirable requisite, nothing can exceed that of the common wax bougie after it has remained for a few seconds in the urethra: but we conceive the superiority of the elastic gum instrument to depend altogether on the extreme smoothness of its surface, which allows it to glide over the irritable membrane of the passage with much less friction than is produced by a bougie made of any other substance. The improper custom of patients themselves introducing the bougie is justly reprobated; and the endless embarrassment which such a practice is apt to occasion to the surgeon, "when at some future time it may perhaps be essential to the life of the patient that an instrument should without delay be got into the bladder," is clearly pointed out.

The difficulty of treating irritable stricture is stated by Mr. Howship. "If let alone," he observes, "the stricture is sure to increase; and if meddled with in order to its relief by the bougie, the attempt only serves to aggravate the disease." Such are the circumstances under which he recommends the employment of the bougie armed with lunar caustic, or the caustic alkali. But, although these instruments are certainly the only curative means we can adopt in permanent stricture with irritable urethra, yet spasmodic forms of the disease often occur, in which more temporary means are sufficient. Thus, in spasmodic stricture, when the irritability of the urethra is so considerable as to forbid the introduction of a common bougie, this may be readily lessened by slightly touching the point of the instrument with liquor potassæ, after it has been oiled and is ready for introduction. The effect of potash employed in this manner upon an irritable urethra is often astonishing; and a full-sized bougie may be thus easily got into the bladder, which had been previously regarded as impracticable. By this means, also, there is much less occasion for suspending the local treatment, which is otherwise properly advised by our author, "where repeated attacks of aggravated spasmodic contraction have rendered a stricture exceedingly distressing to the patient," particularly when connected with irritation about the neck of the bladder. In the treatment of permanent stricture, Mr. Howship gives his testimony in favour of the judicious employment of the armed bougie, to which, if it could be of any weight, we would also add our own, notwithstanding "the satisfactory lists of cases brought forward all ending well," by the supporters of the opposite opinion. When the operation for puncturing the bladder has been determined upon as absolutely necessary, the puncture is recommended to be made from the rectum, and a hydrocele trocar, with a triangular point, to be employed in preference to a lancet pointed trocar, which "is sure to divide whatever blood vessels fall in its way, while the triangular point pushes them aside without further injury." The various steps of the operation are accurately and clearly described by our author. Eight cases, some of which are of considerable interest, are detailed with the view of illustrating this part of the volume; but as our analysis is already too much extended, we must refer our readers for their particulars to the work itself. The plates, which are four in number, are favourable specimens of Mr. Howship's skill as an anatomical draughtsman, but they have that false tone of colouring, which is so common a fault of coloured engravings. It is on this account that uncoloured plates, if well executed, are always preferred by the eye of taste and judgment, unless the tinting be committed to more skilful hands than are usually employed on such occasions.

Upon the whole, we would say of this work, that it will prove useful to the junior branches of the profession, as a book from which they may occasionally refresh their memories on the class of diseases of which it treats; but, as a work for the student, we do not hesitate to affirm, that it is much too general to satisfy him who looks for minute instruction; and it does not certainly possess sufficient novelty to excite any great degree of interest in the formed practitioner. It is, nevertheless, very creditable both to the industry and the talents of the author.

II.

Treatise on Tetanus, illustrated by a Number of Cases. By JOHN MORRISON, M.D. 12mo. pp. 122. Newry, 1816.

TETANUS is fortunately a disease of so rare occurrence in this country, that the greater part of the information regarding it, which can be obtained by British practitioners, must be procured either from foreign sources, or from the observations of our countrymen, whom the spirit of adventure or the duties of military service have led into intertropical climes. The author of the little volume before us, practised eight years in the colony of Demerara, where the land is low, flat, marshy, and abounding with swamps; where the average range of the thermometer, in both the seasons, the wet and the dry, into which the year is divided, is between 76° and 86°; and where many local circumstances exist extremely favourable to the production of this spasmodic affection.

In detailing the general symptoms of this disease, whether as an *idiopathic* or a *symptomatic* affection, our author remarks that its more frequently appearing in the negroes, which is the case in Demerara, does not depend on any peculiarity of constitution or predisposition in their systems, but owing to the blacks being more exposed than the whites are to the remote and exciting causes of the disease. The symptoms in both forms of the disease are nearly the same. Our author adds his testimony to that of other modern writers, as to the state of obstinate costiveness which generally precedes the spasmodic state of the muscles of the jaw, neck, and other parts affected, and lays particular stress on that peculiar dejection of countenance, from the very commencement of the attack, " which so forcibly arrests the attention of every practitioner who has seen but a few cases of it, as being the most striking diagnostic feature of the disease. The spasms which recur at first every ten or fifteen minutes, besides being brought on, as has been generally observed, by slight movements of the body and pressure on the abdomen; are in the advanced stages, says our author, strongly excited " by the presentation of any substance, solid or fluid, to the lips, so as at first view to resemble those in a person affected with *Rabies Contagiosa*." Vomiting has been noticed by some writers* as an early symptom of Tetanus; but Dr. Morrison remarks, " the disease is never attended with the least nausea." With regard to the duration of Tetanus, our author states that, "in the generality of instances," when it proves fatal, " it carries off the patient before the tenth—often before the fifth day: and the younger the subject, the more rapid the disease." A deceptive relaxation of the affected muscles sometimes occurs eight or ten hours before death.

In symptomatic tetanus, the period at which the disease shews itself, after the infliction of the wound on which it is supposed to depend, varies according to the constitution of the patient; but our auther seldom observed it occur " in less than twenty-four hours after the cause." Whatever be the period, however, of its attack, "its violence seems to be in direct proportion to the strength of the muscular fibre," or the robustness of constitution of the patient.

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* Cullen.

Tetanus, in the West Indies, Dr. Morrison informs us, "puts on a much milder appearance than in Europe." Of the two forms of the disease, he thinks the symptomatic the most dangerous; but, nevertheless, he has seen "nearly as many instances of a cure from the traumatic as from the idiopathic form." He combats the opinion of Dr. Parry regarding the prognosis to be drawn from the velocity of the pulse, and asserts that, in no instance of the disease which has come under his notice, has the pulse been "in any manner so much excited as in those detailed by Dr. Parry:" indeed, except during the spasms, it has deviated but little "from that of a person in perfect health." We extract the following passage, to show the state of symptoms on which our author conceives an accurate prognosis may be formed:—

> "When the disease comes on gradually—when for the first three or four days the muscles of the jaws are solely affected, and that perhaps not in any alarming degree—when the abdomen is not preternaturally hard, or the bowels obstinately costive—when the skin is moist and moderately warm—and above all, when the patient enjoys sleep, we may (by the means hereafter to be spoken of) entertain strong hopes of an eventual recovery. An increased flow of saliva, where mercury has, or has not been used, is always to be regarded as favourable; the less the general air of the countenance is changed, the better. On the other hand, when the attack is violent and sudden—when the muscles of the neck, back and abdomen, are rigidly contracted—when the patient complains of a shooting pain from the sternum towards the spine—when the belly feels hard like a board, and the least pressure thereon produces spasmodic twitchings or contractions of the muscles of the neck, jaws, &c. or when the same effect is brought about by the presentation of any substance (solid or fluid) near the mouth, we have much reason to fear a fatal termination. Spasmodic startings of the muscles set in sometimes early in the disease, and recurring every eight or ten minutes, are to be regarded as very unfavourable."—p. 28.

The distinction between Tetanus and Hydrophobia are pointed out by our author, a part of his task which he might have evaded as perfectly unnecessary. He thinks the pathology of the disease cannot be illustrated by an examination of the body *post mortem*, and seems ignorant of the observation of M. Larrey, that in the bodies of individuals who have died of Tetanus, he "found the pharynx and œsophagus much contracted, and their internal membranes red, inflamed, and covered with a viscid reddish mucus."

In commencing his observations on the "treatment of Tetanus," Dr. Morrison differs from those who have asserted that this disease never terminates favourably without the assistance of art; and observes, that he knows "a well authenticated instance of a negroe who recovered from a clearly marked case of lock-jaw, without having used any medicine that could have had much effect on the system labouring under such an affection." The statement, however, is not satisfactory, inasmuch as it appears that the master of the negroe gave him a dose of salts, and afterwards some jalap and calomel; and, although it is added "with little or no effect," yet, it is impossible to say that "a profuse perspiration," which came on "about the fourth day from the commencement of the attack," and seems to have been critical, was not influenced by the mercurial preparation, the quantity of which is not stated. Dr. Morrison thinks the disease by no means so formidable, either as it occurs in warm climates or in this country, "as some authors would lead us to imagine," and attributes much of its fatality to the want of promptness and decision in the practice. When the attack is symptomatic, he advises a transverse incision to be made "between the primary injury and the sensorium;" and every method to be employed to induce the free formation of pus. With the same intentions, but as a prophylactic, stimulating substances, such as oil of turpentine, and, afterwards, emollient cataplasms, are applied in the West Indies to newly received wounds; and Dr. Clark has advised a slight affection of the mouth by mercury. M. Larrey recommends the application of blisters as near as possible to the wound, or over the wound itself, a practice of which our author does not appear to have been aware. With regard to the general remedies, after the disease is fully formed, Dr. Morrison notices in succession "the cold affusion, mercury, wine, and bark, the warm bath, cathartics, blisters, and antispasmodics."

The *cold affusion* appears to have been fairly tried by our author in the first cases which came under his notice; but, not observing any benefit to result from its application, he discontinued employing it, and had recourse to the warm bath with happier results. He quotes the practice of Dr. Parry and Dr. James Clark, in support of his conclusions on the inefficiency of the cold affusion; and adds, "I think I have seen it fairly tried in nine or ten instances, and in some of them, as I conceived, with evidently bad effects."

Mercury.—When its specific effect can be produced in a short period of time, mercury has in many instances proved highly beneficial; and our author adds his testimony also in its favour. He recommends four grains of calomel to be given two or three times a day, and three or four drachms of the ointment to be well rubbed on the neck and spine night and morning: but as the constitution is less easily affected when labouring under tetanus, "a much larger quantity of ointment may be used on different parts of the body; indeed the more continued the friction, the better." As a purgative, in combination with jalap or scammony, its employment in the commencement of the disease can scarcely in any case be dispensed with; but whether it be regarded as inducing a different action in the system, or as operating merely as a purgative, Doctor Morrison thinks it holds the second place in power amongst the remedies which have proved beneficial in lock-jaw.

Opium has always been regarded as the remedy most to be depended upon in the treatment of tetanus: but our author conceives, however, that it has been usually given in too small doses to produce all the effects of which it is capable:—

> "To an adult in this disease," he adds, "I would never begin with less than one hundred drops of the tincture of opium, (bowels being opened) increasing each succeeding dose one-third every two hours, unless sleep or stertor in the breathing ensue; ordering, at the same time, wine or ardent spirits, in as large quantities as the patient can be induced to swallow. I have generally directed the tincture of opium to be given in two or three ounces of brandy or rum, and my patients most commonly took, on a moderate calculation, a pint of spirits, or double that quantity of wine, if preferred, in the course of the day. In addition to this, I have frequently ordered the spine to be well rubbed with the tincture three or four times a day."

Although our author latterly depended more on opium, wine, and mercury, than on either the cold affusion or the *warm bath*, yet, he thinks the latter a most useful adjunct, when the disease is attended with frequent spasmodic twitchings and startings, or when oposthotonos supervenes: but the exertion which it requires to get into the bath, renders its use, in his opinion, in some degree objectionable, as too much rest, quiet, and complete inaction of both body and mind cannot be preserved. *Blisters*, although productive of no bad effects, yet, have not been found by Dr. Morrison capable of affording any decided benefit; and he holds *bark*, *wine*, *cathartics*, and *blood-letting*, with Barbadoes *tar*, *amber*, and other antispasmodics, nearly in the same degree of estimation, when separately used; but when employed in conjunction with opium, on which he chiefly relies, some of these he considers as extremely useful. The following is the summary of his practice:—

> "The bowels should be kept as free as possible. We must endeavour to bring about an operation every twelve hours. This, even by the aid of strong cathartics, or purgative injections, will be found very difficult to be obtained; the sphincter ani sometimes scarcely admitting of the introduction of a clyster-pipe, and the ex-

hibition of the strongest purgatives may often be attended with little or no effect. Sulphate of soda, jalap, and calomel, scammony, pil. aloes, cum colocynthide, &c. are as proper for this purpose as any other, aided by stimulating clysters, such as a solution of muriate or sulphate of soda, with olive oil; the resin of turpentine, suspended by the yolk of an egg; solutions of soap, &c. I have found it on two or three occasions impossible to open the bowels freely, till after large quantities of opium had been taken, which seemed to bring about a general relaxation; or until the system had been evidently under the influence of mercury; and, indeed, these are the two medicines on which we are to place the greatest confidence in the treatment of this disease: they must be given, however, as before remarked, in large doses, and frequently repeated. I once gave a patient, who is, I believe, still living, ten grains of opium and twenty of calomel, in pills, and five ounces of the tinctnre of opium, in wine, all in the space of twelve hours.

"Next to opium, I certainly look on the preparations of quicksilver as the most valuable. Large quantities of the ointment may be rubbed on the spine, neck, legs, &c. with repeated doses of submuriate internally. Wine and ardent spirits should be given freely: indeed, the constitution here appears as insensible to their usual effects, as to those of opium; and quantities, which in a state of health, would produce stupid intoxication, now neither exhilarate the spirit, nor disturb that serenity of mind, so conspicuous throughout the disease.

"The *warm bath* will often be found a useful auxiliary; when we expect to derive advantages from it, the vessel used should be so capacious, as to allow the patient to be as little confined as possible, and the water should be sufficient to cover the shoulders completely. I have found a common rum puncheon sawed across at the centre, very convenient for this purpose.

"I have generally used blistering plasters, but confess I have never experienced much benefit from their application.

"When the disease is conquered, the patient should take wine and bark for several weeks."

Nine cases, five of which recovered, are detailed, illustrative of the practice of the author; but it is to be regretted that dissections were not made of the unsuccessful cases.

In closing this essay, and reflecting on what we have gained by the perusal of it, we do not find that it has elucidated either the pathology of tetanus, or more firmly settled our opinions regarding the mode of treatment which we ought to adopt, were a case of the disease to fall under our notice. The testimony of our author's practice is certainly strong in favour of the employment of mercury and opium; but the same remedies, exhibited in the most judicious manner, and in the fullest doses, have often failed in the hands of others. If, however, the treatment of tetanus be still unsettled, we must attribute it, in a great measure, to the empirical principles which, in the majority of instances, have directed the choice of the remedies employed; and we dare not venture to anticipate any improvement until the pathology of the malady be more accurately investigated. Reasoning from what has been done in this way, and reflecting on the inflammatory appearances displayed by dissection, we would recommend early and copious depletion by the lancet, full purging with calomel, and the exhibition of opium both internally and externally in the form of friction, to as great an extent as the system will permit. But to return to Dr. Morrison's Essay, as it exhibits a correct view of the disease and its treatment as most generally practised, in an easy and intelligible style, we conceive it may be perused with great advantage, by those who wish to obtain correct practical information, without the trouble of much reading or a deep investigation of the subject.

III.

An Essay on the common Cause and Prevention of Hepatitis, or Disorder of the Liver; and of Bilious Complaints in general, as well in India as in Europe. With an Appendix, particularly addressed to the Medical Profession, recommending the Old Submuriates of Mercury in preference to those now in Use. By Charles Griffiths, M.D. Deputy Inspector of Hospitals, and late Senior Surgeon to the Forces. 8vo. pp. 202. London. Highley and Son.

This is a work addressed to the patient rather than to the physician, and might have been written by any individual, provided he could write at all, who had never heard of Hepatitis, nor knew more of India than that it is a very warm climate, predisposing to luxury and inactivity. The object of the Essay is to prove, what none will deny, that medicine should be resorted to only when it is required, and that it is a very dangerous practice in mothers to prescribe for their children; that Europeans should not sleep in the open air in many parts of India, or any where else, if the marshy nature of the situation produces a thick fog overspreading the ground soon after sunset; that a pure air is preferable to foul air, or that which is loaded with miasmata; that gluttony and intemperance in the use of wine and ardent spirits are causes of Hepatitis and also of other diseases; that too much sleep disposes to indolence, and hence is hurtful in a warm climate; that the wearing broad cloths in India is less agreeable to the feelings and less salutary than the China silks and other thin apparel of the natives; and that exercise is more conducive to general health than a sedentary and an inactive life; consequently it ought to be more employed by the lazy young fellows who begin their career in India, and who are too well paid to walk, "being passively conveyed from the table to the desk, and from the desk again to the table," while men of sense and activity, such for example as Governor General Hastings, are often seen walking before their palanquins. Now, as we admit all these positions to be truths, and doubtless worthy of Confucius, or even of Solomon himself, who knew every herb and its virtues, from the hyssop on the wall to the cedar of Lebanon; and as we consider them too important ever to be too frequently repeated, we regret that Doctor Griffiths has not given such a title to his volume as would enable it, more immediately, to find its way into the hands of those for whose benefit it is intended.

The Appendix, which, as it is addressed to the Profession, more properly comes under our notice, displays Dr. Griffiths' love of novelty, even in the title; the term submurias being converted into an adjective, and calomel named *Hydrargyrus Submuriatus* instead of *Hydrargyri Submurias*, the appellation now generally employed. The object of the author is to shew that the former preparation of calomel, or, as it was termed, mercurius dulcis sexies sublimatus is a better and a milder preparation of mercury, and more adapted for the cure of diseases in which the specific action of mercury is required, than the calomel now in use. The superior mildness which he ascribes to the old preparation, he attributes to the repeated sublimations it underwent; but we recommend our author to look into the works of any of the modern chemical writers, who mention this preparation; and he will there find it stated, that the use of a second or at least a third sublimation, as the London College orders, is to render the combination more complete, a portion both of the corrosive muriate and of metallic mercury being apt to sublime unchanged in the first sublimation: but that a second sublimation or at most a third, renders this as perfect as five hundred could make it. It has, indeed, been clearly ascertained, that at each successive sublimation a little corrosive sublimate is reproduced, which must be again washed away to render the product as mild as after the second sublimation: and, therefore, the only difference between calomel six times sublimed and calomel twice sublimed, provided the washings in both have been done with the same degree of care, consists simply in the loss which is sustained by the frequent repetition of the process. We had laboured through the greater part of this confused and desultory appendix, with an anxious desire to reason the point soberly with the author; but were forced to give up the idea of convincing him as utterly hopeless, on finding that he regards mercury as "most dangerous" when "unsubdued by fire!"

IV.

Medico-Chirurgical Transactions. Vol. vii. Part ii. 8vo. pp. 300. London, 1816. Longman & Co.

In our analysis of the first part of this volume, we noticed the papers it contained, not in the order of their arrangement in the work, but according to the affinity of their subjects; and we purpose to adopt the same plan in our examination of the part now before us. It contains eighteen essays.

The only anatomical paper is the *Description of an Extra-Uterine Fœtus contained in the Fallopian Tube*; by George Langstaff, Esq. surgeon. The patient "was forty years of age, had borne five children, and was delivered of a full grown living child seven months previous to the last stated conception." Her dissolution was sudden, without being preceded by any illness, and the only symptoms which marked the fatal attack, were "a violent pain in the lower part of the abdomen, accompanied with sickness of stomach, and a disposition to faint." On opening the abdomen, two quarts of blood were found, "chiefly in a fluid state, covering the intestines, and occupying the pelvic region; and which, on investigation, were found to have come from the right fallopian tube, which "was dilated to about the magnitude of a moderate sized hen's egg, and had burst in two places." The enlargement was discovered to have proceeded from the increasing size of an ovum, which contained "a fœtus of about eight weeks, floating in the liquor amnii." On laying open the uterus, which was larger than in the unimpregnated state, the vessels were found to be large, but empty; in the cavity and neck was much gelatinous matter; and when this was washed off, "the internal surface of the viscus looked very vascular;" but there was no decidua, and the cervix was not closed as it is during utero-gestation. In every other respect the body was free from any appearance of organic disease.

This case differs from others of a nearly similar nature on record, chiefly in having the cervix uteri open, "a decidua not having been formed." With regard to the cause of the laceration of the fallopian tube, and the obliterating of its canal, Mr. Langstaff thus expresses himself:—

> "In consequence of the regular developement of the ovum, the containing parts are distended beyond their capability, and become attenuated; progressive absorption takes place; the vessels supplying the ovum, which are necessarily enlarged, suffer in the destructive action; and from their not having been obliterated by adhesive inflammation, their coats are gradually absorbed, they burst, and the blood now finding free access to the sac, which is already ren-

dered extremely thin, it bursts as in aneurism, the blood is propelled into the cavity of the abdomen, and thus life is extinguished.

" One of the most remarkable, and I believe unique circumstances in this case is, that no communication existed between the uterus and the ovum, the canal of the tube being completely obliterated; and it is also worthy of remark, that there was only the corpus luteum in the right ovarium, which has been described; all the ova, except this, having appeared to be produced by the opposite ovary.

" It would be impossible to state accurately, whether this obstruction took place, before the fallopian impregnation, or in consequence of it; but in a physiological point of view it would be very desirable to ascertain this point, as it would satisfactorily account for the detention of the ovum, and refute the opinion entertained by some physiologists, that the semen must be in actual contact with the ovum for the production of the species.

" From the complete state of obliteration of the tube, I must confess I feel inclined to suppose, that it was not effected by adhesion in consequence of inflammation from the last conception; or else, from the same cause, why was not the extremity of the tube obliterated?"—p. 445.

We have already given our readers the substance of the next paper which we should otherwise notice, intitled, *Microscopic Observations on the Structure of Bone;* by John Howship, Esq. and also, that of a pathological communication, containing *Observations on the Condition of the Bones in Rickets, with an account of some circumstances not before noticed, relating to the Process of Restoration, which takes place in them;* by Edward Stanley, Esq[*]. We have now only to remark, that both essays possess very considerable interest and merit.

The next pathological paper is an *Account of a Case of curious Imperfection of Vision;* by Whitlock Nicholl, M. D. The subject of this imperfect vision is a boy eleven years old, healthy and intelligent, with grey eyes, having a yellow tinge surrounding the pupil. The peculiarity consists in his confounding green colours with red, or with brown, according to the degree of the darkness of their shades: thus, pale green he calls light red; common green, red; and dark bottle green, brown. With red also he confounds dark yellows and light browns, although he calls light yellow by its proper name. Blues of every shade he designates properly, but light red and pink he also calls light blue. This peculiarity seems to be derived from the mother's side of the family, her father and one of his brothers having had the same imperfection of vision. No attempt is made to explain the circumstance.

We know an instance of a young lady, who was suddenly attacked, whilst in Jamaica, with a violent pain of the head, which was relieved by bleeding; but for a very considerable time afterwards, every object appeared of a fiery red colour, and this deception continued for some weeks after she returned to England. The eyes, when examined, did not indicate any appearance of local disease, by which the phenomenon could be explained.

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[*] Vide *Repository,* vol. vii. p. 5, 6.

The surgical papers are seven in number. The first which we shall notice, the first also of the Part, but the twentieth of the volume, consists of *Observations and Cases relating to the Operation for Artificial Pupil;* in a letter from Mr. Maunoir, of Geneva, to Professor Scarpa, of Pavia, with the Professor's answer. Mr. Maunoir's first operation was on the Marquis of Beaumanoir. From a narrative drawn up by the patient himself, it appears that the sight of both eyes had been lost from successive attacks of inflammation; and when Mr. Maunoir examined them,

> " they were large, prominent, the upper eye-lid rather red than white, and slightly swelled; the conjunctiva covered with vessels a little too full; the iris of a bluish grey colour, and presenting, instead of the pupil in the centre, a white spot of the size of a small pin's head."—p. 305.

It was impossible to ascertain correctly the state of the crystalline lens behind this opacity of the capsule, which was adherent to the iris in both eyes; but its transparency was inferred, as the patient " preserved the faculty of distinguishing very clearly the transition from darkness to light." The operation was performed in the following manner:—

> " The patient being seated on a chair and having the head inclined upon a cushion, I placed myself behind him, and with the fore finger of the left hand confining the upper eyelid, whilst an assistant depressed the lower; I made with the right hand a semicircular incision in the lower and external part of the cornea. This incision occupied a full third of the circumference of the membrane. A quick movement of the eye during the operation, obliged me to bring the edge of the instrument so low as to cut slightly the conjunctiva, which occasioned a slight hæmorrhage; but the application of a sponge dipped in cold water, and a moment's repose, remedied this little accident. On re-opening the eye, the iris was seen projecting a little from the wound in the cornea. I replaced it with the blunt point of my scissors. Introducing the two blades closed into the anterior chamber, and then opening them, I caused the pointed blade to penetrate the iris, leaving the blunt blade between that membrane and the cornea; then closing the scissors, a perpendicular incision of the iris resulted, describing a little more than half the chord of an arc of two-fifths of the circumference of the iris, traced on the side of the temple. This first incision not having occasioned the formation of a pupil of the necessary size; I introduced the scissors into the iris a second time a little obliquely;

and immediately the pupil appeared of a satisfactory form and size, but exhibiting the crystalline entirely opake.

"The second stroke of the scissors had divided the capsula: I therefore introduced a small curette, in order to endeavour to destroy what adhered of the crystalline to the shrunk and contracted circumference of the old pupil. It will be seen presently that this attempt did not succeed. Lastly, I effected the passage of a portion of the opake lens by means of a slight pressure with a large scoop exercised on the lower part of the globe of the eye. The crystalline, which was of a cheesy consistence, came out with the greatest ease, and though it was not entirely removed, yet a sufficient quantity was discharged to leave the artificial pupil of a most perfect black. This new pupil was on the side of the temple; and at the exterior and lower part of the iris. The old pupil which had neither changed in form or size, and remained always closed by a white opake body, was not comprized within the area of the new pupil, but was situated internally, and above it. The new pupil had the form of an irregular trapezium. The Marquis received immediately some confused idea of objects in the light."—p. 307.

The patient could not distinguish any object for the first three weeks after that operation, but before four months had elapsed, the remainder of the lens being absorbed, he could read "written characters of the size of a fourth of an inch," and could otherwise see tolerably well. The other eye was operated on in a similar manner, except that the lens was altogether extracted; but the sight obtained was less perfect. Two other operations are also described, both of which were attended with successful results. In the last of these the crystalline was opake, and adhered to the lower circumference of the iris, and the edge of the closed pupil: but this circumstance, Professor Scarpa, in his answer, regards as of little importance, and recommends the extraction of the lens with its capsule, through an incision "upon the iris proportioned to the size of the body to be extracted." He also advises that, after the complete "extraction of the crystalline with its opake capsule, by means of the least possible introduction of instruments, the artificial pupil ought not to be too near the incision in the cornea." We extract the following suggestions of this illustrious surgeon for the gratification of our readers:—

"After reflecting attentively upon this situation of the artificial pupil, and upon the obstacles which it presents to the operator, it appears to me, if I am not greatly deceived, that a method of operation compounded of that of Wenzel, and of your own, would perfectly answer the desired end. Wenzel, as you are aware, made an incision upon the cornea and the iris with a single stroke of his instrument, taking care that this transverse incision should pass through or underneath the centre of the inclosed pupil. He then took off, by means of the scissors, a portion of the edge of the iris,

PART III.

SELECTIONS.

I.—*On the Heat evolved during the Coagulation of Blood.* By J. Davy, M.D. F.R.S.

Whether any heat is evolved during the coagulation of blood, is a question which has received opposite answers from different inquirers.

My friend Dr. Gordon is decidedly of opinion, that the phenomenon alluded to, is attended with a considerable elevation of temperature, amounting even to several degrees.

This opinion of his, I ventured to controvert, in my Inaugural Dissertation, published about two years ago. And Dr. Gordon did me the honour of replying to my remarks, in a paper published about eighteen months since, in Dr. Thomson's Annals, in which he maintains his former doctrine.

At present it is not my object to criticise his essay, but to offer some additional facts relating to the subject under dispute, which I had an opportunity of collecting on my voyage to this place, in my way to India. My experiments were made on the blood of the turtle and shark, which last is extremely well adapted to the purpose, as its temperature approaches nearly that of the atmosphere; and on the blood also of sheep.

On the 15th of March, when our ship was in latitude 4° 9′ N. and longitude 19° 15′ W. by chronometer, at sun-set, a large shark was taken by means of a harpoon. As soon as it was brought on deck, whilst it was still alive, it was cut in two. The blood flowing in the great dorsal vein was 82°*; the surrounding thick muscles were 82,5°; the water of the sea was 80,5°, and the air 79°. Some of the blood was collected in a glass. In about two minutes it had firmly coagulated. During the whole time I watched the Thermometer immersed in it. The mercury sunk from 81,5° to 81°, and did not rise at the instant that the coagulation commenced, nor did it remain stationary whilst the coagulation was going on, but continued gradually sinking.

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* This result is an additional evidence that venous blood is of a lower temperature than arterial; a circumstance which I have endeavoured to prove by numerous observations contained in the Thesis already alluded to.

The day following another shark was taken. The same experiment was made with the blood, and a similar result was obtained.

On the 23d of March, when we were in latitude 2° 29′ S. and in longitude 24° 30′ W. a large turtle was killed, which had been caught about three weeks before, at the island of Ascension. The air at that time was 79°. The blood of the turtle flowing from the carotids was 91°. When collected in a glass it was 88,5°. The thermometer placed in the midst of it, immediately began to fall, and continued falling gradually without any sensible interruption, whilst the blood was coagulated.

Since I have been at Cape Town, I have repeated my experiments on the blood of sheep. To enter into any details of them would be superfluous, since the results they afforded agreed perfectly with those already described. The air being about 60°, and the blood when drawn about 100°, it continued cooling whilst its coagulation was going on, so that when the coagulum had formed, its temperature was diminished, in between two and three minutes, about one degree and a half.

From these experiments, the obvious, and it appears to me the unavoidable conclusion, is that which I had before adopted in my Thesis, and which had been first drawn by Mr. Hunter, viz.—"That during the coagulation of blood, there is no sensible evolution of heat."

It now only remains for me to reconcile the fact (if I may venture to call it by that name) with the well-established principle, that change of temperature is the necessary consequence of the change of form of bodies in general; and to suggest a reason for the difference of Dr. Gordon's and my own results.

To accomplish the first, there is little difficulty; and the explanation which I proposed in my Thesis, I shall again offer, as it seems to me quite adequate to the purpose.

Since, during the coagulation of blood, a part of it passes from the liquid into the solid state, there should be, according to theory, some increase of temperature. But since this liquid part, the fibrine, which becomes solid, is so small as to amount only to about $\frac{1}{30}$ of the whole quantity by weight; and since the coagulation is not an instantaneous, but a slow and gradual effect, it appears to me as necessarily to follow, that the heat produced must be too slight to affect sensibly the thermometer. This granted, which may be proved to demonstration, the anomaly vanishes,—this fact no longer opposes the general principle.

The difference between the results of Dr. Gordon's experiments and my own, has arisen perhaps from the different modes in which our experiments were made. Dr. Gordon, I think, kept the bulb of his thermometer near the bottom of the vessel containing the blood, and when this fluid began to coagulate towards the surface, he drew the instrument up. On the contrary, in all the experiments I have detailed in this paper, the thermometer was not allowed to remain stationary; it was gently moved from one part to another, so that the whole might be kept of the same temperature till the coagulation commenced: for when the blood is viscid, and the vessel deep, the surface on the part last drawn is warmer than that below, and when shallow, the bottom is warmest, as I have frequently observed in my experiments, and as I have remarked in my Thesis, as a source of inaccurate observation.

I could wish to enter more into detail upon the subject; but at this distance from Europe, and consequently from every scientific journal and scientific work, it is out of my power. To Dr. Gordon's well-known candour and liberality of mind I must trust for pardon, for any oversight I may have committed in the consideration of his paper. I am, however, confident, that if Dr. Gordon will repeat the experiments I have described, he will obtain the same results, and be satisfied with Mr. Hunter's original conclusion.—*Journal of Science and the Arts*, No. IV.

II.—*On Injury of the Spine.*

A MAN who receives an injury of the spine recovers from the immediate effects of the accident, but at the distance of months, instead of having the full use of the lower extremities restored, he begins to drag them more and more, and at length becomes totally palsied in the lower extremities, and languishes, and dies.

I have heard it proposed, by very high professional authority, to cut down upon the spine, and apply the trephine and raise the bone. This appears to me a most desperate measure.

In the first place, it is not proved that it is the bone which presses the spinal marrow. Indeed, I am confident, that in these protracted cases, when the palsy increases slowly, it is the thickening of the membrane which encroaches on the spinal marrow; or a diseased action, which is gradually more and more affecting the nervous matter itself.

It may be said, that although the pressure is produced by the thickened envelope of the spinal marrow, still it is the confinement of the bone which causes the membranes to press in upon the spinal marrow; and if, by taking away the part of the tube of the bone which confines the membranes, freedom were given to them, the spinal marrow would be freed from pressure. But this is an idea too mechanical. On the other hand, I offer this view: the palsy is a consequence of the swelling of the membranes, and proceeds from inflammation; and if you cut down upon the bone, and saw it out, and expose these membranes, you will not only increase the swelling and thickening of the involving membranes, but you will most probably raise such direct inflammation and mischief, as to cut off the patient suddenly.

What then, are we to do nothing in these desperate circumstances? I do conceive the case to be desperate; but that does not authorise us to attempt a remedy which is not only desperate, but which will not stand examination, and affords to me, I confess, no hope. We are to take up the case as a scrofulous inflammation of the spine; and I am certain that much may be done by prosecuting the cure with energy and perseverance, by local bleeding and deep issues.—*Bell's Surgical Observations*, Part II.

PART IV.

FOREIGN MEDICAL SCIENCE AND LITERATURE.

ANATOMY, PHYSIOLOGY, PRACTICE OF MEDICINE, AND SURGERY.

I.—As every thing that can elucidate the nature of diseases of the heart, are of importance, we are induced to publish at length the following case of a remarkable organic affection of the heart and the aorta, with the dissection and remarks, by Professor HORN, of Berlin.

" G. S. thirty-eight years of age, a coachman, had always enjoyed good health, with exception of small pox, which he had in his earliest years, and an attack of itch. His parents, in his remembrance, had never laboured under any chronic disease. In the campaigns of 1813–14, he served as a volunteer in a regiment of hussars, when, one night, being in Holland, he fell with his horse into a pit several fathoms deep; he was stunned, but soon recovered, and felt violent pains in his chest. A cough soon succeeded, accompanied with a considerable hæmoptysis. He took some acid medicines, and applied a volatile liniment, by which, in a short time, he felt himself much relieved; and four days afterwards again mounted his horse; but he was, for a considerable time, obliged to be very care-in riding, as violent exercise always renewed the pains in his chest.

Being again exposed to all the commonly injurious influences of a campaign, frequently obliged to lie on the wet ground, often in want of common necessaries, and at other times supplied with them in over abundance; he became rather intemperate in the use of spirituous liquors, but according to his own assertion, never to an excess. The constitution of the patient however was such, as to make him consider himself as neither sick nor well, when in Nov. 1814, he returned from the field to Berlin, and entered into the service of a wine-merchant, as a coachman. Here he did not want for opportunities to satisfy his inclination for spirits, which frequently was indulged, though, as he still asserted, not to any excess.

He remained in the service of the wine-merchant, without feeling the least unwell until about ten days ago, when he first began to be tormented with an uncommon thirst, which obliged him to drink three or four quarts of beer within twenty-four hours, without being able to quench it. Soon afterwards a slight cough came on, attended with a trifling expectoration. He also felt an oppression of breathing, which was rather periodical, had violent night sweats, and now and then a watery diarrhœa. Though the patient under these circumstances continued to perform his duty, yet he found himself so much exhausted, that he requested to be received into the hospital on the 15th March. He was of a moderate height, stout and robust; his chest broad, his neck short, the extremities proportionate to the trunk, and his colour pretty healthy. He was, however, peevish, and did not like to talk of his complaint. His respiration was, at first, regular, and but in a trifling degree sonorous. He could lie more easily on his back or on the left side, as lying on the right was attended with anxiety, and rendered the respiration difficult. To be able to sleep, he was obliged to assume a pretty elevated position, but, notwithstanding, awoke frequently, and found it very difficult to fall asleep again. He pretended not to feel any pain in the neighbourhood of the thorax; nor had he perceived one of his hips to be higher than the other. In the left hypochondrium, directly under the cartilages of the short ribs, there appeared a flat oblong tumour, of the size of a hen's egg, soft and elastic, but not at all painful. At uncertain periods, three or four times in the forty-four hours, but often not more than once in forty-eight hours, a violent palpitation of the heart occurred, continuing five or ten minutes. It came on particularly during the night, on the patient's lying on his right side, when he felt great anxiety, and was obliged to sit upright in his bed.

During such a fit, the respiration became more difficult and quicker, and the pulse increased; he had scarcely any cough, but sometimes head-ache. The abdomen, on being examined, felt soft every where, without any sensation of pain; neither was there any obduration or fluctuation perceivable. The quantity of urine voided, was rather scanty, not exceeding a quart, although two quarts of fluid were taken in twenty-four hours: it was turbid and dark coloured. The skin generally was dry; the stools few, and somewhat watery; the pulse hard and full; but seldom surpassing at night the usual state, eight or ten pulsations, and not intermittent. The appetite was much below that of health, the tongue clean, and the thirst great; but the patient, however, refrained from indulging it, as it quickened respiration, and brought on the palpitation.

"After the patient had been forty-eight hours in the hospital, on closer investigation of his case, the principal seat of disease appeared to be the thorax. The oppression increased, the palpitation returned more frequently and violently, the urine became more morbid and was voided more sparingly, whilst the inclination towards visceral obstruction continued, and the skin was in general drier. The lips now began to assume a blueish colour; and the vessels of the lower eyelids became more visible. Whenever the attacks of the palpitation returned, the tumour in the left hypochondrium enlarged. The pulse remained the same with regard to frequency, but had become tense and harder.

"It was now very plain that the seat of the complaint was principally in the cavity of the thorax; but whether in this part alone, or also in the pericardium; or whether it consisted in an organic change of the heart, was, on account of our still very recent acquaintance with the case, and many dubious symptoms, not to be decided on with any certainty.

"Palliatives only were employed until the 26th of March. The anxiety, dyspnœa, and the palpitation had increased: the patient was very restless, sleeping but for a few hours during the night. The hands and feet became œdematous, and retained the impression of the finger. The abdomen was perfectly free from water, not distended, nor in the least degree painful, and pains between the shoulder occurred but seldom. The pulse became harder and fuller, but neither more frequent nor intermittent. During the night of the 25th the palpitation returned six times, and the oppression and anxiety continued the whole day, so that the patient could hardly lie in bed. The tumour under the short ribs had increased, and the patient felt himself generally worse, was peevish, and low spirited.

"Small bleedings, cooling diuretics, and anti-spasmodic remedies, produced no effect, and the dyspnœa and palpitation returned eight or ten times within the twenty-four hours aft the venesection. They then became less violent, and the patient felt better; but the pulse, nevertheless, became tenser after the bleedings.

"The tumour under the ribs was lessened in size, and the diuresis proceeded pretty well, although the urine remained still of a dark colour, and the œdema of the feet and hands had rather increased. The twitching pains between the shoulder-blades were also increasing.

"Thus the disease proceeded without interruption. The dyspnœa returned as frequently as before, whenever the patient remained a little too long out of bed, or on the least movement. The pulse continued as hard and tense as before; the secretion of urine was not increased by the diuretic; and the patient voided nearly a quart in twenty-four hours. The appetite, already weak, decreased still more, and his disposition became more gloomy and morose. In the first days of April a firmer swelling was seemingly felt through the outer coverings in the right hypocondrium, though unattended with any pains or pressure.

"About the middle of April, the condition of the patient was as follows: the oppression of the chest was so great, that he was obliged to keep in a sitting posture, which he did not quit even in sleeping, supporting his head on his hands; as, on assuming a horizontal situation either on his back or on the right side, he could not sleep, and felt excessive anxiety. His sleep, both by day and by night, was frequently broken by sudden starts. The palpitation sometimes occurred suddenly, but more frequently during the night, at repeated intervals, producing great anxiety. After these attacks, the patient could quit his bed for a little while; his cough was moderate, and sometimes attended with a trifling expectoration.

"The above mentioned tumour still remained, and on a strong pressure of the hand in the region of the liver the patient felt some pain, although no sensible hardness was perceivable. The distension of the abdomen was inconsiderable. The lower extremities were œdematous, bearing the impression of the finger; but the left hand only was sensibly swoln. His colour was pale, rather sallow; the lips pale and blueish, and the eye languid. The pulse was hard, full, and tense. The thirst was great, but drinking brought on a considerably increased oppression. The tongue was of a pale red on the rim, and covered in the middle with a whitish yellow phlegm. The skin, with regard to its temperature, was colder than natural, pale and dry. The urine was trifling, but he had five or six watery stools every day.

"The difficult respiration, the necessity of observing an almost sitting posture, the flying pains from the breast to the shoulder-blades, the difficulty of lying on the right side, the blue lips, the sallow colour of the face, the œdema of the limbs, and the lessened secretion of urine, gave suspicion of hydrothorax.

"The Hydrargyri Submurias; Sulph. stib. aurant; Tart. depur; Bac. Junip; Oxym. Scillæ, and mercurial frictions, were all successively tried, without procuring any advantage; for the dyspnœa remained the same, and the attacks of the palpitation were as frequent. On the 18th of April, at night, I found the pulse fuller, harder, and somewhat quicker than on the preceding days: the behaviour of the patient betrayed considerable uneasiness; he was ill-humoured, dissatisfied with himself and those around him, and seemed to relinquish all hopes of a recovery. He tossed about in his bed, felt himself tired, but could not sleep; and thus anxious and uneasy spent the night, but without delirium.

"The medicines were continued on the 19th, when he was still worse; the palpition had continued almost throughout the day, and he had not slept during the last twenty-four hours. He was more ill-humoured, and even refused to take the medicines, which hitherto he had always called for himself. His pulse was very hard, and about one hundred in a minute. He was very irritable; called for something, and refused it when given; nothing pleased him; nothing could be done according to his wishes; his eye was gloomy; and his look seemed to indicate a heavy inward suffering.

"In the night from the 19th to the 20th, the patient got no sleep, and his frequent attempts for that purpose were interrupted by sudden starts, when he raised himself up in the bed and replied to any questions in an unintelligible and vague manner. His thirst was excessive; and although drinking increased the dyspnœa, he had drank nearly two quarts of beer. On the 20th, in the morning, he was seemingly exhausted, and lay rather more quiet and lower with his trunk than hitherto; his pulse, on the other hand, was harder, and he was sometimes delirious and refused to take more medicines. All the superficial larger arteries might be plainly observed to pulsate, and the œdema in the feet was somewhat abated. After losing a little blood by venesection, he was apparently a little easier, but towards night grew worse; was delirious, jumped out of bed, then threw himself down again, and placed himself with his head and trunk lower than usual on the right side. The pulse, after blood-letting, was neither softer nor smaller, but rather more frequent; in short, his condition was nearly similar to that of the preceding day.

"During these three days his face was considerably sunk;

the œdema in the lower extremities had lessened very much, yet the secretion of urine was not perceptibly increased.

"On the 21st in the morning I found the patient sitting in his bed; his face expressed serenity; he was affable; answered every question in a proper manner; extolled his present condition too highly; said he was almost well; pretended not to have had any palpitation for the last sixteen or eighteen hours, an assertion which did not agree with the relation of his nurse. He remarked that his left arm and foot were benumbed, and that he could not feel properly with the fingers of his left hand. On examination, both these extremities appeared less warm than those of the other side. During the succeeding night, after having taken some doses of opium, he enjoyed a few hours of sleep; the palpitation, however, re-appeared, although he did not complain of it at the morning visit. His pulse still remained hard, full, and tense; the stools were lessened; and the œdema had quite disappeared. The attacks of oppression, which the patient, perhaps, had not been sensible of for the last five or six days, re-appeared, so that he was forced to raise his head and breast higher than he had done of late; but he slept very much, was awaked with difficulty, and then spoke in an indifferent drawling tone, and was now and then delirious.

"This torpid condition continued four days, and the patient took very little nourishment. The œdema of the feet and thighs was quite gone, but the attacks of the palpitation still continued; and the oppression and the hardness of the pulse was not lessened.

"A new circumstance now occurred; the tumour near the pit of the stomach had disappeared; but the patient began to complain of a violent pain there, stretching from the rim of the right short ribs to the vertebræ. This painful sensation was less felt when lying quietly; but was considerably increased by motion or pressure of the hand, when some hardness and distension of the liver was felt through the tegument a. abdominis. The white of the eye and also the face assumed a yellowish hue; the urine became dark, and the sedes soft and clear.

"The patient now relapsed into his former morose disposition, lost all hopes of his recovery, and short and unsatisfactory answers were with great difficulty extorted from him. His appetite was quite gone, his sleep very little, his breath began to assume a fœtid smell, his gums became soft, and inclined to bleeding, his skin very dark-yellow, and the pains in the region of the liver became more violent. Under these circumstances, the use of opium in small doses was continued.

" Some days afterwards, the antispasmodic remedies being renewed, the patient imagined he felt himself better; his breathing was free, and the urine increased in quantity; but his colour was more yellow, and the fœtor of his breath still stronger; the pulse also continued hard. All these symptoms daily increased; the fœtor of the breath was quite intolerable, and the urine was almost blood-red. A thin watery diarrhœa of from twelve to sixteen stools in twenty-four hours succeeded, and the eyelids were greatly inflamed; but the pain in the region of the liver had abated, and the pulse was a little softer, although still very full. The patient found himself much exhausted, and refused all kinds of medicine, except opium, which, as he said, made his condition a little more tolerable, and the evacuation by stool less frequent.

" On the 7th of May, I perceived on both hypochondria a blueish stripe, passing gradually into a reddish and losing itself in a yellow hue. This circumstance induced me to examine his back also, when I observed on both sides of the processus spinosi, two large echymosis, stretching from the neck down to the os ileum, almost black, bordering on green and blue, but the patient felt no pain in these parts. The fœtor of breath had now acquired such an insupportable degree, that one could not bear to approach him. His tongue and blueish lips were covered with a dirty yellow phlegm, and the evacuations by stool, notwithstanding the free use of opium, did not abate. He could not now speak intelligibly; took no kind of nourishment; lay always in a bent posture on his right side; and much lower with his head and trunk than before. During the night between the 9th and 10th, he had two bloody stools, and was greatly exhausted in the morning, and delirious. The rims of his eye-lids were inflamed to a high degree, and the pus-like phlegm made them stick together so closely, that he would scarcely open them. He slept a great deal, and appeared very much emaciated.

" He remained under these circumstances from the 10th to the 12th. The bloody stools had continued, and the suggillations has spread in two small stripes from the back over the abdomen; the scrotum and penis also appeared suggillated, and the yellow colour of his face assumed a blueish tint. On the 13th, in the morning, two pretty profuse bleedings from the nose occurred; the blood was black and thin. The smell from his mouth remained still very offensive; he was delirious, and lay for hours in the same posture without calling for any thing; the urine was blood-red and turbid, and the stools continued bloody. Within the last two days the pulse had sunk considerably, and at night, when the patient seemed to be senseless, beat from 106 to 110 pulsations. Without betraying any symptoms of further uneasiness, he at length expired at nine o'clock.

" During the last four days, the pains in the hepatic region had ceased, for the patient could bear pressure without betraying any symptoms of pain; nor did he touch the place himself, and could even lie on this side, although some callosity was still felt.

" DISSECTION.

" The dissection was made on the 15th of May, forty hours after death. The whole skin had a very deep-yellow tint, the face being nearly orange-coloured. The above-mentioned suggillations appeared on the back, under the chin, on the belly, the outer genitals, and the inner side of the thighs.

" *The Head.*—1. The scull itself was of the natural thickness. 2. The venous vessels of the dura mater contained a small quantity of thin, very dark, almost black, blood. On cutting the dura mater, on the right side of the basis, nearly half an ounce of a yellowish water issued; which was the case also on the left side, although in less quantity. 3. The brain itself was natural as to firmness and colour; but an ounce of water was contained in the lateral ventricles.

" *The Thorax.*—1. No anomalous collection of water was found between the pleura and the lungs. 2. Towards the vertebræ, the lungs, in a very few small spots, were slightly attached to the pleura; but this viscus in every other respect was perfectly natural. 3. The pericardium did not exhibit, outwardly, any morbid condition; it was not distended, and contained only as much fluid as might naturally be expected, neither was it any where attached to the heart by the pseudomembranes. 4. But on opening the pericardium the appearance of the heart was very striking at the first view, on account of its uncommon size. It weighed 1¼ lb. and filled up the whole of the pericardium, appearing smooth on the surfaces, except three small indents, half a line in depth, in the region of the venæ magnæ Galeni. The contents of the thorax were taken out, the large vessels separated from the columna vertebralis, cleared from the surrounding tela cellulosa, and the heart, with its large vessels, severed from the pericardium and the lungs. The heart, on being opened, contained very little blood: the parietes of the arteries and ventricles, with regard to their thickness and condition, were in the following proportions:—The right ventricle was proportionate to the size of the heart; but the left ventricle was too weak and thin. On the other hand, the columnæ carnæ ventriculi sinistri were very strong, and its parietes thick. The same disproportion was found between both arteries; but there was no ossification of the valves, no polypus, nor any other anomaly observable. 5. The morbid condition of the aorta was readily perceivable, by merely touching it; for it appeared uncommonly firm, thick, solid, and rigid at the origin, and almost scirrhous in its membrane. On the inner surface of this organ, small flat tubercles were found, so that the whole almost resembled an ulcerated gut, except that the hollows were less deep. These inequalities stretched from the beginning of this organ almost to that part where it joins the ductus arteriosus Botalli The thickness of the parietes vasorum here was at least a line: by degrees this thickness decreased; but even the coats of the arteria iliaca appeared too thick, firm, and inflexible. 6. The parietes of the arteria pulmonalis were also somewhat thick, although to a less degree than the aorta; the venæ cavæ and pulmonalis were natural, but contained little blood.

"*Abdomen.*—1. The situation of the viscera was proper; but the left lobe of the liver projected a little too far over the stomach towards the left side. No water was found. 2. The bowels were discoloured; the tractus intestinorum almost as much so as the stomach, of a dirty blueish tint; but in other respects quite healthy and empty. 3. The liver was too large in size; and, in its parenchyma, blackish red, interspersed with dark-yellow spots. The gall bladder contained about an ounce of a darkish green, almost blackish, gall. 4. The spleen was somewhat large, dark blue, and of brittle consistence, so that it might be broke with ease. 5. The pancreas likewise a little larger, and, at its upper end, of a striking firmness and hardness, though not scirrhous. 6. The organa uropoetica, and all the other parts of the abdomen, were healthy.

"REMARKS.

"Distensions of the heart and of the large vessels frequently occur from strong concussions of the body, or violent exertions under anxiety and fear. The above patient perceived the first symptoms of the evil; i. e. pain in the breast, cough, and spitting of blood, after having tumbled with his horse into a covered pit, several fathoms deep; which probably laid the first foundation of the succeeding complaint.

"The single attacks of oppression and anxiety that, mostly without any originating cause, sometimes occurred four or six times in twenty-four hours, and then discontinued for several days, shewed some similitude to the paroxysms of the angina pectoris, although there was no ossification of the valves of the heart, and its vasa coronaria. On comparing the essential symptoms, which the above-described case offers, with those essential appearances which, according to Wichman, in his

Ideas towards Diagnostic, vol. ii. p. 129, are said to be peculiar to the angina pectoris, and the polypus of the heart; they are the following:

"1. Anxiety and oppression, which frequently return four, six, and eight times in twenty-four hours, with a sense of suffocating, without any perceivable outward cause. 2. The necessity of lying on the right side. 3. The absence of cough, fever, or intermission of the pulse. 4. The uncommon hardness of the pulse. 5. The tension and swelling of the abdomen. 6. The scanty secretion of turbid urine, and the frequent inclination to costiveness. 7. The numbness of the left arm and foot in the last stage of the disease. 8. The appearance of orthopnœ at the same period. 9. The constant moroseness during the whole malady. 10. The appearance of a general morbus petechiales, doubtless the effect of the want of oxidizement of the blood by the lungs, occasioned by the disproportionate structure of the left and right ventricle of the heart.

"On comparing these symptoms with those we have described, it will be obvious that Wichman's Essay, in a diagnostic respect, is far from being considered as complete; as both here, and in many other cases, observed by me, and confirmed by dissection after death, many important symptoms occur, which are as common to most of the organic diseases of the heart, as to angina pectoris, or to those disorders produced by polypus of the heart. If Wichman's work upon the Disorders of the Heart be perused with attention, a doubt arises, whether this excellent Diagnostic may have had sufficient experience in this complaint.

"A more valuable work is that of Kreyssig upon the Diseases of the Heart, which will be a lasting ornament of German literature."

II.—A Case of paralysis, illustrative of the curative effects of the application of moxa, presented to the Athenée de Medicine of Paris, by *Pierre-Edouard Vallerand de Lafosse*, M. D.*

"Jean Thomas, a mason, twenty-eight years of age, and of a good constitution, whilst at work as usual, on the 24th of June, 1814, whilst having occasion to make water, was suddenly attacked with numbness, and such a weakness of the limbs, that he fell down, and could not again raise himself, nor move in any direction. His fellow workmen, attracted by his cries, having come to his assistance, carried him to the Hotel Dieu.

"There was a complete immobility and insensibility of the trunk, and the extremities both upper and lower: he sweated copiously; the fæces were passed involuntarily, and the urine retained; but he could speak distinctly, and the intellectual functions were entire; his respiration was free; his appetite moderate; the pulse nearly natural; he slept well enough; and there was no symptom of the brain being affected. To what then, it may be inquired, could this general paralysis of the body, its complete immobility, and the copious sweats, be attributed? No explanation can be given; there was no appearance of any previous disease, nor of any blow having been inflicted on the spine. The most powerful tonics with cinchona were administered without any benefit; and the patient remained an immoveable mass. Despairing of any success from the employment of internal remedies, M. Dupuytren suggested the idea of applying moxa upon each side of the vertibral column, near the first and second dorsal vertibræ. These having been applied, the patient, on the following day, was able to raise his hand to his mouth and feed himself. The sloughing of the eschars produced by the moxa was hastened, in order, immediately, to establish a drain from the wounds. On the second day, sensibility and motion were nearly restored to the upper extremities, and sensibility to the lower. On the third the sensibility and mobility of the arms, and the sensibility of the lower limbs, were complete. On the fourth day the patient began to walk in the ward, by the aid of crutches; and it is worthy of remark, that as soon as the sensibility and power of motion returned, the sweats, the involuntary stools, and the retention of the urine abated in proportion. In a few days more, the cure was perfected; and this patient, who, not many days before, was obliged to be fed like an infant, was employed in assisting the other infirm patients in the ward, and carrying to them their food. After having been long questioned on the subject of the cause of his attack, he acknowledged, that he had for many months intemperately indulged in sexual intercourse with a female whom he saw daily, and had also occasionally been guilty of masturbation."

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* Vide *Bibliothèque Médicale*, tome iii. p. 349.

THERAPEUTICS.

III.—The following report of *M. Delandre*, on the experiments of Doctor *Bergonsi*, relative to the operation of Camphor on a healthy man, presented to the Academy of Medicine of Paris, has been lately published.*

"Dr. Bergonsi wishing to ascertain the accuracy of the accounts given by different writers of the effects of camphor, commenced the following course of experiments with that medicine on himself.

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* Vide *Recueil Général de Medecine, de Chirurgie,* &c. tom. lvii. 11^e partie, p. 238.

"In the first he swallowed twelve grains of camphor, combined with a small quantity of extract of ground ivy. After a few minutes it produced all the effects of a general stimulant: the pulse, which was previously seventy in a minute, rose to seventy-nine; and ptyalism supervened, with beating of the temples, swelling of the jugulars, tinnitus aurium, and increase of muscular power. In two hours, these effects gradually subsided.

"In the second experiment, M. Bergonsi swallowed sixteen grains of camphor in some unleavened bread. In five minutes, ptyalism came on, and the pulse rose to seventy-five in a minute; and in a quarter of an hour to eighty-one. He experienced a degree of general oppression; and altogether more powerful effects than in the first experiment. Half an hour after he had taken the camphor, he took a scruple of nitre, and in a few minutes afterwards, ten grains more of the same salt. The sensation of weight which he had felt in the head, disappeared; but the disturbance of his intellectual faculties remained, and his gait was staggering. An hour and a half after the camphor was taken, the pulse was sixty-five, and the experimenter experienced a degree of feebleness, which he compares to a state of calm felicity.

"In the third experiment, a scruple of camphor was swallowed. It was followed by ptyalism as in the preceding instances; the pulse acquiring a greater degree of quickness. These symptoms having continued for an hour and a half, M. Bergonsi took a grain and a half of opium. The respiration became immediately quickened, and the sensibility to light much augmented, accompanied with vertigo, and ardent thirst, whilst the pulse, instead of being diminished, rose to ninety. In two hours the general excitement gradually diminished.

"*Reflections upon these three experiments.*—The Reporter thinks that no conclusions relative to the effects of camphor can be drawn from these experiments. It would have been more desirable, had the dose in the first instance been smaller; and the intention of the author in joining it with the extract of ground-ivy, which is an acrid and aromatic bitter, is not very obvious. With regard to the second experiment, the nitre was at least useless. The employment of the opium in the third, with the view of moderating the effect of the camphor, was ill judged, because the effect which it had of increasing the symptoms might have been anticipated, in reflecting on the manner in which this narcotic acts.

"It appears, however, from the above experiments, that camphor always excites a copious salivation, which is followed by a degree of general excitement; but it is of a temporary nature only, and bears some affinity to that observed in high fever. These effects do not always follow the exhibition of camphor, as I have lately given it in the dose of half a gros, to an individual who had five or six seminal ejaculations in the twenty-four hours, in consequence of involuntary erections, without observing any of the effects described in the preceding experiments.

"In the fourth experiment, the author swallowed ten grains of camphor with thirty-six grains of nitre, with the intention of diminishing its stimulant effect. But the camphor, nevertheless, produced the same effects as before.

"In the fifth experiment, M. Bergonsi took twelve grains of camphor, combined with three grains of extract of hyosciamus niger; but it was immediately rejected from the stomach. After an interval, however, of three hours, eight grains more of camphor, and two of the extract of henbane, were swallowed. In six minutes the sight was affected; a heavy weight was felt over the eyes, and the pupils were dilated; but the day was passed in a state of calmness, uninterrupted by the smallest agitation.

"In the sixth experiment, the author produced in himself a considerable degree of artificial debility, having excited evacuations from both the stomach and the bowels, by taking two grains of tartar emetic and an ounce of cream of tartar; and submitting to a very low diet. On the following morning, when there was a great diminution of muscular power, paleness of the features, and a slow weak pulse, he swallowed, in successive doses, fifteen grains of camphor. His strength was repaired, the pulse acquired a greater degree of quickness, and he felt as if suddenly restored to his ordinary state of health.

"In the seventh experiment, M. Bergonsi ingeniously confessed that having no longer the courage to prosecute his researches by experiments upon himself, his friend Doctor Gallois continued them. This gentleman, who was in perfect health, swallowed in the morning two grains and a quarter of opium. Five minutes afterwards his pulse rose from sixty-four, which is its usual standard, to seventy-four in the minute; and swelling of the eyes supervened, with sleepiness, vertigo, and nausea. He now took eight grains of camphor; and in a quarter of an hour afterwards five grains more. The pulse rose to seventy-eight, ptyalism came on, the sleepiness was increased, the stomach felt intensely heated, and the eyes glistened. He then swallowed three grains more of the camphor, which, increasing the excitement, brought on repeated vomitings; after which all the symptoms gradually subsided.

"In the eighth and last experiment, M. Gallois drank three ounces of *rosolio à la cannelle:* the result was suffusion of the eyes, quickening of the pulse, dimness of sight, confusion of ideas, and weight in the head. Two days afterwards, having drank the same quantity of this liquor, in which he had dissolved ten grains of camphor, he was attacked with nausea, profuse salivation, vertigo, and tinnitus aurium; the number of the pulsations varying from eighty-four to eighty-five in the minute. There was also a general disturbance of the functions; but in other respects the symptoms were nearly the same as those produced by the liquor taken without the camphor.

"*General reflections upon the last five experiments.*—Camphor undoubtedly possesses the property of raising the powers of the system in low fevers; and the result of the sixth experiment accords with the daily practice of physicians, who order it in prostrations of strength and involuntary diarrhœa.

"The analyses of modern chemists have proved, that camphor is the basis of the essential oils, of peppermint, rosemary, lavender, &c.; and it cannot be denied that they possess, even in small doses, properties eminently tonic.

"I shall add an experiment which I have made with camphor on professed drunkards.

"A man, addicted to wine and habitual inebriety, at the end of several days passed in continual drunkenness, was confined to bed in a state of frightful debility; his features were pale and distracted; the tongue was black and dry; the pulse nearly imperceptible; there was acute pain at the epigastrium, with confusion of ideas, anorexia, and the impossibility of moving even in bed. The only words he could pronounce were, *je me meurs de faiblesse; je voudrais me defaire; ordonnez-moi votre potion ordinaire.* This potion was the following:

℞ Camphoræ ℈i.
Vitelli ovi q. s.
Syrupi Menthæ ℥i.
Aquæ puræ f℥iv. Misce.

He swallowed this mixture in spoonfuls at short intervals; and such was the effect, that in the evening I found him with his ideas perfectly collected, his strength renovated, and the appetite beginning to be felt. He was ashamed of the situation in which he was found in the morning, having given up all idea of suicide; and commended me for not having lost the formula of his usual potion. As however he often relapsed, he rarely passed many weeks without requiring my assistance. Twenty times did he make use of camphor under similar circumstances; and always with the same advantage.

"Upon the whole, these experiments carry with them a character of truth which claims our confidence; and the symptoms are described with candour and correctness. They enlarge our views regarding the utility of the employment of camphor in medicine; and although the author has not attained the object he had proposed to himself, that of ascertaining the properties of this concrete essential oil, yet the following corollaries may be deduced from the last of his experiments.

"1°. Nitre united to camphor weakens its stimulant qualities.

"2°. After having taken opium, or any other narcotic, when the excitement has subsided, and drowsiness succeeds, the torpor which follows may be overcome by the use of camphor, operating as a stimulant; a property which may prove useful in cases of poisoning by opium, when a physician has not been called sufficiently early to evacuate the poison from the stomach."

CHEMISTRY.

III. — *Examination of the Method employed for separating Magnesia from Lime, by means of the Neutral Carbonate of Potash.* By Professor Bucholz*.

After the most careful investigation, Bucholz is of opinion that Vauquelin was the first who observed that magnesia is not precipitated from its solutions in acids by the neutral carbonate of potash, and applied this property to the analysis of magnesian minerals, (*Annales de Chimie*, vol. xxi. p. 96-105). Klaproth, and several other chemists, have employed Vauquelin's process; but Bucholz, after having remarked that carbonate of lime is soluble in an excess of its acid, like the carbonate of magnesia, entertained doubts of the accuracy of that process; and, under this impression, instituted the following experiments;

"A mixture of five grammes (77·220 grains Troy), of pure lime, and an equal quantity of magnesia, having been saturated with hydrochloric acid, and diluted with about half a kilogramme (16·0875 ounces Troy) of water, a solution of fifteen grammes (231·66 grains Troy) of neutral carbonate of potass was gradually added to it. Neither the first portions nor the last occasioned any remarkable precipitation; but merely a slight turbidity, which did not so much destroy transparency, as to prevent objects being seen through the glass vessel; in that part of the liquid, however, where each drop of the solution fell, a sensible precipitate was formed; but it disappeared upon agitation. The vessel was now put into a place, the temperature of which was from fifteen to twenty degrees (Reaum).

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* *Annales de Chimie, &c.* tome iii. p. 493. — Extracted from *Schweigger's Journ.* vol. xvii. p. 56.

Each time the cork was taken out, some carbonic acid gas escaped; and after some hours repose, a precipitate was formed, which did not weigh the sixth part of what it ought to have done, if all the lime had been precipitated in the state of a carbonate, although there was in the solution double the quantity of carbonic acid necessary to produce a full precipitation of it. A fresh quantity of carbonate of potash threw down another precipitate; and the last portions having produced no sensible effect; all the precipitates of carbonate of lime were put together, and did not weigh more than three-fourths of what they ought to have done; hence there remained in solution more than one-fourth; and indeed the oxalate of potash produced in it a very considerable precipitate.

" In order to ascertain if the quantity of water in which the hydrochlorates of lime and magnesia were dissolved, had any influence upon the precipitation of the carbonate of lime, the solution was diluted with ten times more water than in the preceding experiment, and the same quantity of carbonate of potash was dropped into it; but at the end of eight-and-forty hours, the precipitate was equal to the seventh part only of what ought to have been obtained.

" With a solution, in which there was twice as much lime as magnesia, the precipitate was comparatively much more abundant than in the preceding experiments. With eight parts of lime, and one of magnesia, the precipitate was still more abundant; and there remained in solution only $\frac{1}{11}$ of the carbonate. These experiments prove, therefore, that the quantity of magnesia has a great influence upon that of the carbonate of lime which is not precipitated. The action of the magnesia, however, is not the only cause which prevents the precipitation of the carbonate of lime; for the neutral carbonate of potash does not entirely precipitate lime from its solution in hydrochloric acid.

" It follows, from these experiments, that the method employed by several chemists for separating lime from magnesia, by means of the neutral carbonate of potash, is altogether uncertain and impracticable; since some of the carbonate of lime remains in solution with the carbonate of magnesia.

" After these observations of Bucholz, we may notice the following by Doebereiner, p. 73.

" The best method of separating lime from magnesia, is to employ the sub-carbonate of ammonia; in which case the carbonate of lime is precipitated, and the magnesia remains in solution, forming a triple combination with the ammonia, from which it may be precipitated at the boiling temperature.

" We may also separate these two from one another, by commencing the precipitation with the sub-carbonate of potash, or of soda; and, after having washed the precipitate, boiling it with a solution of sal. ammoniac. The carbonate of magnesia is thus entirely dissolved, and the carbonate of lime remains without undergoing any alteration. During this operation some carbonate of ammonia is volatilized, with the vapour of the water, which it is easy to collect, and which, being saturated with an acid of known strength, may serve to determine the proportion of the magnesia to that of the lime."

IV.—THE *Ergot* having lately attracted much attention, *M. Vauquelin* was induced to undertake its analysis, and has published the result of his experiments*. As this is a subject of considerable interest, we present our readers with a translation of M. Vauquelin's Paper, which is intitled, *Analyse du seigle Ergoté du bois de Boulogne, pres Paris.*

"M. Desfontaines, who was charged by the Academy of Sciences with the examination of a Notice by M. Virey, relative to the ergot of rye, having engaged me to submit the ergot to chemical analysis, I embraced this task with more willingness, as the object is of the utmost importance, as far as the health both of men and of the lower animals is concerned. Many distinguished chemists, particularly M. M. Bucquet and Cornet, (see *Treatise on the Diseases of Grain*, by M. Tessier,) have analysed the ergot of rye, and I acknowledge that they have nearly exhausted the subject; but as the same causes do not always operate in the production of ergot, I consider it a duty to publish what I have done, with the hope of awakening the attention of Naturalists and Chemists.

"*Physical properties of the Ergot.*—The *colour* is externally violet, and internally white. Its *figure* is cylindrical, the extremities being more or less tapering, and curved in form of a crescent, having a furrow on the convex as well as the concave side. It has at first no smell, but after some time acquires one which is acrid and disagreeable. A grain cut transversely and viewed under the microscope, appears composed of white brilliant grains resembling those of starch. The coloured pellicle which constitutes its exterior tunic, presents, when examined by the microscope in a similar manner, a violet-coloured mass with minute whitish specks scattered through it.

"*Experiments with different agents, with the view of ascertaining the best solvents of the colouring principle of ergot.*—Several entire grains being put into a phial with alcohol did not sensibly colour it; but a quantity of the bruised seeds being treated with boiling alcohol, coloured the spirit a brownish red with a shade of violet.

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* Vide *Annales de Chimie et de Physique*, tome iii. p. 337.

"Water boiled in the same seeds acquired a beautiful violet red hue, less intense than that of the alcohol. Water alkalised by subcarbonate of potash, and cold, acquired a deep wine red hue, but the colour became more intense on the application of heat. Water acidulated by acetic acid was not remarkably coloured, even when heated; that by sulphuric acid acquired a pale red tinge; that by muriatic acid a similar but deeper hue; and that by tartaric acid a very pale rose colour; while by nitric acid it became yellow, the colour being destroyed.

"Water and alcohol, therefore, appear to be the true solvents of the colouring principles of ergot; but water possesses this property in the highest degree.

Effects of Re-agents on the different Solutions.

"The *Aqueous Solution* reddened litmus paper, precipitated acetate of lead lilac, and lime water light blue, whilst the supernatant fluid remained green. Acetate of iron threw down a blueish grey precipitate. The solution made with the *alkalized water* was precipitated lilac by acetate of lead, and purplish red by vinegar: the supernatant fluid remaining rose-coloured.

"*Experiments.*—1°. Two ounces of bruised ergot of rye were treated with boiling water, until it ceased to take up any colour; and the residue then treated with alcohol, which was boiled upon it. This alcoholic decoction, which was of a yellowish red colour, was then put into a retort, and distilled, in order to separate the alcohol, and procure the matter which it had taken up. The extract thus obtained, which was of a greenish brown colour, and had an acrid bitter taste, reddened the tincture of litmus, and swelled up when put upon live coals, emitting the odour of burnt bread.

"The aqueous decoction was rendered turbid by chlorine and galls; when evaporated, it yielded a brownish red extract, of a taste at first sweet but afterwards bitter and nauseous. This extract reddened strongly litmus paper; but when bruised in a mortar with potash, it disengages a very fœtid odour of ammonia. The ergot, after having been thus treated with water and alcohol, was divided into several parcels; one of which, treated with subcarbonate of soda, only faintly coloured that alkali; the other, introduced into a small coated glass retort, yielded, on distillation, an oily product, of the consistence of butter. Paper reddened by an acid, and plunged into the air of the receiver, which contained the product, was restored to its natural colour: water agitated with this oil was a little coloured, acquired a slight degree of acidity and a bitter acrid taste; and when mixed with potash, it disengaged ammonia. The charcoal which remained in the retort, left after its combustion, which was very difficult, a grey cinder, chiefly composed of phosphate of lime and magnesia, in combination with a little iron.

" 2°. Twenty grains of bruised ergot, distilled on a slow fire, with four ounces of water, furnished a liquid slightly alkaline; for it changed to blue litmus paper reddened by an acid; to green the syrup of violets; and formed precipitates with solutions of acetate of lead and of nitrate of mercury.

" 3°. A certain quantity of the bruised seeds were washed on a silk sieve, to ascertain whether they contained starch; but a coloured matter only was obtained, which had none of the properties of starch. The water of the washings, being kept in a well corked flask, after some days disengaged an odour of ammonia mixed with that of putrid fish.

" 4°. As the matter soluble in alcohol, obtained in the first experiment, had been mixed with the matter soluble in water, the operation was re-commenced in order to separate the pure resinous part. Twenty grammes* of the ergot were treated with alcohol at 40°, until it ceased to colour it. On evaporating the solution, a blueish red substance was procured, which had an acrid taste, and afterwards an oil resembling rancid fish-oil. The alcohol, which came over in distillation, emitted an insupportable odour of bilge water. The extract placed upon ardent coals, exhaled in burning the smell of volatilized fat. After having been thus exhausted by the alcohol, the residue was boiled with water, which was coloured by it of a very beautiful violet red, and extracted a white oil that floated on its surface. This oil had no remarkable smell or taste. The colouring matter which was dissolved in the water, was reddened by the acid.

" 5°. Forty grammes of bruised ergot of rye were distilled in a coated glass retort, to the neck of which a phial was adapted as a receiver. A gentle heat only was kept up for three quarters of an hour, after which it was augmented so as to redden the bottom of the retort. A large quantity of a thick disagreeable smelling oil came over. Litmus paper reddened by an acid, and, plunged into the air of the receiver, was restored to its blue colour: and water, poured upon the oil to dissolve the fluid ammoniacal portion of it, became soft to the touch, and had all the appearance of a concentrated solution of soap; and, which was more remarkable, it was strongly alkaline, like the water which washed the oil procured from the ergot exhausted by water and alcohol; and distilled, was slightly acid. The charcoal which remained in the retort was very light; it weighed 7·700, so that the 40 grammes of the matter employed had lost 32·300.

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* 310 Grains.

"6°. Wishing to determine whether the ergot of rye, deprived of its colouring matter by water and alcohol, would yield a red colour to muriatic acid, a portion of it well bruised was put into this acid in a concentrated state. No remarkable action was at first perceptible; but in the space of twenty-four hours the acid had acquired a brownish-red colour.

"*Application of the colour of the Ergot to wool and silk.*—With the view of ascertaining whether this colour, which appeared to me analogous to that of orchil, could be applied as a dying material, I prepared some wool and silk, and after having allowed them to steep for twenty-four hours in a cold solution of alum, containing an eighth of cream of tartar, I plunged them into an infusion of ergot, heated to 60° (centig): they took the colour well, and in a short time both substances were saturated with a yellowish-red colour, although the bath was purple; but the wool was deeper tinged than the silk. This yellowish red hue seemed to depend on the cream of tartar; for some of the silk prepared with alum alone acquired in the same bath a lilac colour.

"The colour which wool and silk takes in the infusion of ergot, previously treated with alcohol, is a much purer violet; because the spirit takes up a yellow matter of an oily or resinous nature, which also attaches itself to these substances.

"Ergot, therefore, contains two colouring principles; one soluble in alcohol, of a resinous nature, and which impresses a reddish yellow tint; the other much less soluble in alcohol, but soluble in water, and which is violet like the juice of orchil, but differs from it in its little solubility in alcohol.

"I found, on endeavouring to discover how this colour is developed in ergot, that a colour of a similar shade may be obtained from the farina of wheat by dissolving it in concentrated muriatic acid; the colour developing itself as the solution of the flour proceeds until it is of a deep violet; but, after some hours, it passes to a purple, and continues so at least for several days. This solution does not become turbid, nor change its hue, on being diluted with water; but is merely diminished in intensity, like any other colour. After some time, a light oily pellicle appears upon the surface of the diluted solution, similar to what is seen upon an infusion of the ergot when it is heated.

"It is probable, that this oily matter is not the consequence of the action of the muriatic acid upon the flour; for I have detected it in flour by means of alcohol. Conceiving it would be interesting to know, were it possible, to which of the elements of the flour the colouring matter was due, I dissolved one part of pure starch in muriatic acid; but no colour was developed. I then dissolved fresh gluten in muriatic acid, and obtained a blueish-grey colour. Observing that the two colouring principles which flour contained did not furnish the colour when separated, which they yielded when united in the flour, I began to prepare the mucoso saccharine principle which completes the composition of the flour, but when about to mix the acid solution of the gluten with that of the starch, I perceived almost instantaneously formed the beautiful colour of which I have spoken. I imagined that the colour would have exactly resembled that of ergot, and this idea seemed the more probable, as I knew that gluten produced a violet colour during its decomposition in water*; but the following experiments changed my opinion: 1°. Alkalies poured in excess into the muriatic solution of wheat, changed this purple into a yellow; and it could not be again completely restored by the acids. I could not detect any disengagement of volatile alkali in thus saturating this solution. The colour of ergot is not sensibly changed by the alkalies; which only make it incline a little more to purple. 2°. This colour diluted with water alkalized to weaken the acid, is not fixed upon either wool or silk, like that of the ergot. We must therefore conclude, that the colour developed in wheat flour by means of muriatic acid, is not the same as that of ergot; and thence we can draw no conclusion from these experiments regarding the presence of gluten and starch in ergot. Yet if there exists no true gluten in ergot, it contains an azotized substance, since the action of heat upon it produces a considerable quantity of ammonia. It is even probable that it contains starch; but in a peculiar state of combination. The farina of rye mixed with concentrated muriatic acid, coloured it first yellow and then red, similar to what occurs in the same acid with ergot which has been washed in water and alcohol.

"I made several experiments with starch and gluten in the muriatic acid, and observed, that the solution with starch may be diluted with water without affording any precipitation or losing its transparency; while that of the gluten is instantly precipitated in greyish flocculi, and the supernatant liquor remains of a blueish hue. I do not yet know whether gluten suffers any change of composition during its solution in muriatic acid; nor am I aware how a purple tint so beautiful and intense, is developed by the contact of flour and muriatic acid. Is it the effect of simple combination, or the product of decomposition? My time does not permit me to make the researches requisite for resolving these interesting questions.

"From the above experiments we may conclude that ergot contains—1°. A fawn-yellow colouring matter, soluble in alcohol, and having a taste resembling that of fish-oil; 2°. a white oily matter, of a sweetish taste, which appears to be very abundant in the ergot; and is the same which M. Cornette obtained from it by simple pressure: 3°. a violet colouring principle, of the same shade as that of orchil, but differing from it by its solubility in alcohol, and which can be readily fixed on aluminated wool and silk: 4°. a free acid, of which I have not yet determined the species, but which I believe to be partly phosphoric, if we may be allowed to decide from its fixidness, and the precipitates which ergot forms with lime water, barytes water, and acetate of lead: 5°. a very abundant vegeto-animal substance, much disposed to putrefaction, and which furnishes a considerable quantity of thick oil and of ammonia by distillation: 6°. a small quantity of free ammonia, which can be obtained at the temperature of boiling water.

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* Vide *Annales de Muséum*, vol. vii. p. 1.

" After these chemical proofs to which we have submitted ergot, can we pronounce with certainty on the nature of that production? Is it a new vegetable which is formed in the bark which ought to contain the grain of the rye, as Decandolle supposes? or is it only a disease of the grain, produced by external causes, as has been hitherto generally believed? If, for the admission of this latter opinion, it be required that the same principles be found in the ergot as in the natural grains of rye, the opinion must be given up; as scarcely any starch, which the rye contains in great abundance, can be detected in it. Neither can gluten be separated from it, at least in its natural state; but there exists in it, as in healthy rye, a substance which, on being decomposed by heat, furnishes, like starch, an acid; and another which supplies ammonia, like gluten. If the physical properties also of ergot be examined, we shall be more inclined to regard it a disease of the grain: as it preserves, to a certain degree, its original form; and the remains of the furrow, which characterise the seeds of the cerealia. In the interior also the ergot presents a structure formed of white shining grains, like that of the natural rye.

" It would appear, then, that in this disease the rye chiefly suffers in its amylaceous principle; since scarcely any trace of it is to be found in the ergot, and the starch is replaced by a mucous matter. The gluten is not in its natural state; but has suffered a change, which has modified its properties, and given birth to a thick oil and ammonia. Finally, I think we may regard the ergot of rye as the effect of putridity: and it is probable that it is the acrid matter, and the putrescent animal substance contained in the ergot, which produce the poisonous effect it has on the animal economy."

This paper is followed by a similar analysis of the Sclerotium *sterіorum*; from which the following conclusions are drawn:

" 1°. This species of Sclerotium differs from the ergot of rye in its infusion, being colourless and devoid of acidity; it is also precipitated more copiously by alcohol, galls, and chlorine; it is much more mucilaginous than that of the ergot; the watery extract has no acrid, disagreeable taste, like that of the ergot; on the contrary, it is sweet and mucilaginous, like that of champignons.

"2°. Submitted to distillation in a glass vessel, it does not yield as large a quantity of butteraceous oil as the ergot; the air of the receiver is alkaline like that of the ergot; but the product is more fluid and acid.

"3°. The ergot contains a fixed oil, which is not found in the sclerotium: it also contains exclusively a species of very acrid resin. Finally, ergot contains ready-formed ammonia, which may be procured at the temperature of boiling water; the scletorium yields it only at a red heat. Such are the essential differences in the composition of these two productions."

PART V.

MEDICAL AND PHYSICAL INTELLIGENCE.

I.—SOCIETIES.

Royal Society.—On Thursday, Feb. 6, a paper by Mr. Edmond Davy, Professor of Chemistry to the Cork Institution, was read, on Fulminating Platinum, prepared in the following manner: Platinum reduced by exposing ammonio-muriate to a red heat was dissolved in nitro-muriatic acid, the solution evaporated to dryness, re-dissolved in water, and the platinum precipitated in the state of sulphuret by passing sulphureted hydrogen gas through the liquid. This sulphuret was digested in nitric acid till it was converted into sulphate of platinum. A little ammonia being poured into the liquid sulphate of platinum, a precipitate fell, which, being separated and washed, was put into a Florence flask, along with a quantity of potash ley. Being boiled for some time, separated by the filter, washed, and dried, it was fulminating platinum.

This substance is a brown powder, varying in shade, and specifically lighter than fulminating gold. It explodes violently when heated to the temperature of 400°; but not by trituration or percussion. It is a non-conductor of electricity, which prevents it from exploding by the action of the galvanic battery. When exploded between two plates, it acts most violently against the lower one. It dissolves in sulphuric acid, without giving out any gas. The solution is very dark coloured. Nitric and muriatic acids have but little action on it. Chlorine decomposes it, and converts it into muriate of ammonia and muriate of platinum. Ammoniacal gas has no action on it. When heated in muriatic acid gas, it is converted into muriate of ammonia and muriate of platinum. When exposed to the air, it absorbs a little moisture, but is not otherwise altered.

On Thursday, Feb. 13, the remainder of Mr. Edmond Davy's paper was read. 100 grains of the powder contain 73·75 grains of platinum. When the powder is treated with nitric acid, and heated cautiously, there remains a grey oxide of platinum, which Mr. Davy considers as new, and promises to describe soon. 100 grains of the fulminating powder left 82·5 grains of this grey oxide. Hence it follows that grey oxide of platinum is a compound of

Platinum	100
Oxygen	11·86

In order to determine the other constituents of fulminating platinum, he exploded small quantities of it in glass tubes over mercury. Ammonia was evolved, and water, and a quantity of azotic gas. From a careful comparison of the proportion of water and azotic gas emitted, the author concludes that the 17·5 grains wanting to make up 100 parts of the powder consist of 9 ammonia and 8·5 water. According to this statement, fulminating platinum is composed of

Grey oxide	82·5
Ammonia	9·0
Water	8·5
	100·0

LINNÆAN SOCIETY.—On Tuesday, Feb. 18, a paper by Capt. Marriott, of the Royal Navy, was read, giving a description of two shells. One a new species of mitra from the Mediterranean: the other, which he constituted a new genus, under the name of cyclosterma, was observed in a collection of shells chiefly West Indian.

At the same meeting, the remainder of Mr. Anderson's Monograph of the Genus Pæonia was read. Nine other species were described, making 13 in all; the principal of which were P. officinalis, corallina, humilis, arietina, peregrina, mollis, humilis.

II.—NOTICES OF LECTURES.

Dr. Merriman and Dr. Ley will recommence their Lectures on Midwifery, and the Diseases of Women and Children, at the Middlesex Hospital, on Monday, April the 21st, at half past ten o'clock.

Mr. Thomson will commence his usual Course of Lectures on General and Medical Botany, about the third week in May.

Mr. Curtis, Aurist to his Royal Highness the Prince Regent, and Surgeon to the Royal Dispensary for the Diseases of the Ear, will commence his next Course of Lectures, on the Anatomy, Physiology, and Pathology of the Ear, on Thursday, April the 17th, at seven o'clock in the Evening, at his house, No. 18, Soho Square.

III.—PHARMACY.

Decomposition of Opium.—Dr. Gilbert, of Leipzig, informs us, that in the Number of his Annals for January 1817, there is a paper detailing some experiments upon opium, which he thinks will be found worthy of great attention. We have not yet seen the paper; but from Dr. G.'s letter we learn, that from the experiments it results that the effect of opium is from an alkaline body, with which all the acids will combine, and form nearly chrystallizable salts of a peculiar nature; to which the Discoverer gives the appellation of *Morphium.* The opium, besides, contains two apparently different new vegetable acids; but which have no share in the medical effects of opium.

IV.—ANIMAL MAGNETISM.

We have occasionally adverted to the progress of this mystic art in Germany, but little thought it would ever acquire the permanency it seems to have attained. The Emperor of Russia and King of Prussia, issued Commissions of Inquiry, to ascertain the claims of Animal Magnetism, as a branch of Therapeutics. The Russian Report is not yet published; but it is allowed to be practised by regular physicians; and Dr. Lichtensteadt and Dr. Stoffregen, body physician to the Empress, are the most successful practitioners of this art at St. Petersburgh. The Prussian Report was so favourable, that the King, by a Cabinet Order, has established a Professor's Chair, at Berlin, where students are now regularly instructed in this art, and the method of its application. Dr. *Wolfarth* is at the head of this new science, and has hired a spacious building at Berlin, at 600 rix dollars annual rent; wherein he teaches the students, and performs his magnetic cures.

V.—MISCELLANEOUS.

Mr. Curtis has introduced Artificial Ears for Deaf Persons, from France, where they were manufactured. By being closely adapted to the Ear, they increase the collection of sound, but besides that, there is an additional force wanted to transmit it through the passage. In this respect, the French invention is deficient. To remedy this defect a small tube is added, which, by contracting the passage, will occasion the sound to enter with greater force. The form of this invention is particularly convenient, being applied over the natural Ear, which they are made to resemble. Mr. C. also has invented a Hearing Trumpet, forming a parabolic conoid, on the same principle as the Speaking Trumpet used at sea, which is so well known to answer the purpose in extending the impression of sound. It has this convenience also, that it shuts up in a small case for the pocket.

Dr. Reid Clanny remarks upon our note to Mr. Giraud's description of his contrivance for the preservation of Vaccine Lymph (see *Repository,* vol. vi. p. 212), that he must certainly give the originality of that invention to Mr. Forman and not to Mr. Giraud, because the former says "that he made such apparatus sixteen years ago for Mr. Wilkie, surgeon of Newcastle, and so far from any person having given him any hints upon the subject, he is confident that the idea must have been taken by others from him." Which way soever this may be, we agree with Dr. Clanny upon the possibility that both gentlemen may have been struck with the same idea independently of each other.

A METEOROLOGICAL TABLE,

From the 21st of February to the 20th of March 1817,

KEPT AT RICHMOND, YORKSHIRE.

230 Miles NW from London.

D.	Barometer. Max.		Min.		Therm. Max	Min.	Rain Gage.	Winds.	Weather.
21	29	29	28	99	39	32	29	W...	1 Snow.. 4 Moon...
22	29	52	29	38	42	36		WbN...	1 Sun...
23	29	26	29	06	46	38	08	SW...	1 Cloudy... 2 Sun. 4 R.
24	29	49	29	44	43	39		SW...	1 Cloudy.. 2 Sun..
25	29	25	29	21	47	38		WSW..SW...	1 Cloudy.. 2 Sun..
26	29	21	29	01	43	39	07	SW...	1 Cy..2 S.. 4 Sh. Lt...
27	29	29	29	29	45	39		WSW....	1 Sh. & S.. 4 Moon...
28	29	29	29	09	48	44		W..WSW...	1 Sun.. 3 Cloudy..
1	29	12	29	02	48	36	25	SW....	1 Rain.. 4 Moon..
2	29		28	71	43	35	31	SW...	1 Sun.. 3 Cy.. 4 Rain...
3	28	70	28	60	42	34	15	SW....	1 Sun... 3 Cy.. 4 Rain..
4	28	80	28	64	39	32	05	SW...	1 Sun.. & Sh of Snow.
5	28	70	28	50	39	32		WSW...	1 Sun.. & Sh of Snow.
6	28	73	28	70	39	31		W..	1 Sun.. & Sh of Snow.
7	28	84	28	70	37	31	Melted	WbS..	1 Sun.. & Sh of Snow.
8	28	95	28	88	39	31	Snow	W..WbN...	1 S.. 3 Sh of Sn. 4 St...
9	29	50	29	35	39	32	10	N.NW...	1 Sun...
10	29	68	29	68	40	34		WNW..	1 Sun...
11	29	58	29	44	44	41		SW..	1 Cloudy...
12	29	47	29	42	49	44		SW..	1 Sun...
13	29	83	29	73	49	35		WSW...	1 Sun..
14	29	86	29	82	46	40		NW..SbW..	1 Sun...: 3 Cloudy..
15	29	82	29	77	47	42		SW.	1 3 4 Cloudy.. 2 Sun..
16	29	86	29	79	46	41		SW..	1 Cloudy.. 4 Slarl..
17	29	92	29	81	48	43		SW.NW.	1 Cloudy... 4 Starl..
18	29	50	29	41	49	38		SW.SW...	1 3 4 Cloudy.. 2 Sun..
19	29	44	29	37	44	26		W...NW...	1 Cloudy.. & Sh of Sn.
20	29	64	29	60	30	22		NW...	1 S...3S..&ShofSn.4St....

The quantity of rain during the month of February was 1 inch 51-100ths.

The weather has been very boisterous nearly the whole of this period, and colder than the preceding.

Observations on Diseases at Richmond.

Catarrhal complaints have increased both in number and severity. Cases of the following disorders have also been under treatment: Anasarca, Ascites, Cephalalgia, Cynanche Parotidea, Cynanche Tonsillaris, Diarrhœa, Dysp[illegible] Erysipelas, Febris Simplex, Febris Puerperarum, Menorrhagia, Obstipatio, Podagra, Rheumatismus.

METEOROLOGICAL TABLE FOR LONDON,

From the 19*th of* ***FEBRUARY*** *to the* 20*th of* ***MARCH*** **1817,**

By Messrs. HARRIS & Co.

Mathematical Instrument Makers, 50, High Holborn.

M.	D.	Therm.			Barom.		Rain Guage	De Luc's Hygrom. Dry.	Damp.		Winds.		Atmo. Variation.		
	20	46	49	37	29^{6}	29^{5}			14	10	SW	WSW	Clo.	——	——
	21	39	43	37	29^{6}	29^{5}			6	7	W	W	Clo.	——	Rain
	22	39	47	39	29^{6}	29^{6}			7	5	SW	W	Clo.	Sho.	——
	23	41	45	40	29^{7}	29^{7}			9	10	NNW	NW	Fine	——	Clo.
	24	42	47	42	29^{6}	30			10	9	W	SW	Fine	——	Clo.
●	25	44	48	43	30	30			7	6	SSW	SW	Fine	Sho.	Fine
	26	46	50	44	30^{1}	30^{2}			7	5	W	Wva	Rain	Sho.	Fine
	27	47	49	41	29^{6}	29^{9}			7	8	Wva	SSW	Fine	Sho.	Fine
	28	44	53	46	29^{9}	29^{9}			6	9	WSW	W	Clo.	Fine	——
	1	48	51	41	29^{8}	29^{6}			9	7	W	SW	Clo.	Fine	Rain
◐	2	45	50	35	29^{5}	29^{4}			5	5	SW	SW	Fine	Clo.	Rain
	3	40	47	41	29^{1}	29			5	5	SSW	SW	Fine	Clo.	Rain
	4	43	49	35	29	29^{4}			6	6	Wva	Wva	Clo.	——	Rain
	5	38	47	40	29^{5}	29^{3}			8	9	SW	SSW	Fine	——	——
	6	43	46	36	29^{2}	29^{2}			8	7	WNW	SW	Rain	Fine	——
	7	39	46	35	29^{3}	29^{3}			7	7	SW	SSW	Fine	——	Rain
	8	39	44	36	29^{1}	29^{4}			8	7	W	WSW	S & R	Fine	Clo.
	9	40	42	35	29^{7}	29^{5}			6	5	W	W	Fine	Sho.	Fine
○	10	38	46	38	30	30^{2}			4	5	W	SW	Fine	——	Clo.
	11	40	49	44	30^{2}	30^{1}			6	9	SW	SSW	Fog	Clo.	——
	12	47	53	50	30	29^{9}			10	12	S	SW	Fine	Clo.	——
	13	52	57	45	30	30^{1}			10	12	WSW	WNW	Fine	Clo.	Fine
	14	47	51	39	30^{2}	30^{3}			12	7	NE	E	Fine	——	Clo.
	15	41	52	38	30^{3}	30^{3}			5	5	SE	S	Fog	Clo.	Fine
	16	46	54	35	30^{2}	30^{2}			5	5	E	E	Clo.	Fine	——
	17	40	47	33	30^{3}	30^{3}			5	5	NE	NW	Fog	Fine	C l.
	18	38	49	42	30^{3}	30^{1}			5	5	SE	SW	Fog	Fine	——
◑	19	45	47	32	29^{9}	29^{8}			6	2	SW	WSW	Clo.	Fine	——

The quantity of Rain fallen in the month of February is 1 inch 26-100ths.

BILL OF MORTALITY *from February* 25, *to March* 18, 1817.

		Feb. 25.	*Mar.* 4.	*Mar.* 11.	*Mar.* 18.	
CHRISTENED.	Males	215	273	144	163	
	Females	187	263	133	129	
		402	536	277	292	Total, 1507.
BURIED	Males	177	226	144	146	
	Females	178	226	115	131	
		355	452	259	277	Total, 1345.
OF WHOM HAVE DIED	Under 2 Years.	99	127	85	75	
	Betw. 2 and 5	25	48	21	27	
	5 and 10	24	16	12	10	
	10 and 20	18	17	11	10	
	20 and 30	23	35	16	24	
	30 and 40	30	41	19	27	
	40 and 50	33	47	24	27	
	50 and 60	34	46	19	28	
	60 and 70	33	33	21	25	
	70 and 80	19	27	18	18	
	80 and 90	15	12	12	6	
	90 and 100	2	3	1	2	
SMALL POX		7	18	6	10	Total 41.

A REGISTER OF DISEASES

Between FEBRUARY *20th, and* MARCH *19th,* 1817.

DISEASES.	Total.	Fatal.	DISEASES.	Total.	Fatal.
Abortio	20		Erysipelas	20	2
Abscessio	22	1	Erythema *lave*	2	
Acne	2		——— *nodosum*	2	
Amaurosis	2		Febris *intermittent*	17	
Amenorrhœa	24		—— *catarrhalis*	54	
Amentia	2		—— *Synocha*	19	
Anasarca	21	3	—— *Typhus mitior*	16	4
Anorexia	14		—— *Typhus gravior*	8	2
Aphtha *lactentium*	7		—— *Synochus*	22	
——— *anginosa*	2		—— *remit. Infant*	23	
Apoplexia	5	2	Fistula	2	
Ascites	19	3	Fungus	5	
Asthenia	46	1	Furunculus	8	
Asthma	71	8	Gastritis	1	
Asphyxia	2		Gastrodynia	34	
Atrophia	8		Gonorrhœa	24	
Bronchitis *acuta*	13	1	Hæmatemesis	4	
——— *chronica*	14		Hæmoptöe	19	2
Bronchocele	1		Hæmorrhois	28	
Caligo	2		Hemiplegia	5	1
Cancer	2	1	Hepatalgia	10	
Cardialgia	26		Hepatitis	11	1
Catarrhus	114		Hernia	9	
Cephalalgia	42		—— *humorrhalis*	2	
Cephalæa	15		Herpes *Zoster*	5	
Chlorosis	12		——— *labialis*	4	
Chorea	1		——— *præputialis*	2	
Cholera	13	1	Hydrocele	2	
Colica	16		Hydrocephalus	5	4
—— *Pictonum*	3		Hydrothorax	8	2
Contractura	2		Hypochondriasis	11	
Convulsio	8	1	Hysteralgia	3	
Coryza	9		Hysteria	27	
Cynanche *Tonsillaris*	34		Hysteritis	2	
——— *maligna*	3		Ichthyosis	1	
——— *Trachealis*	3	1	Icterus	14	
——— *Parotidea*	9		Impetigo *figurata*	1	
——— *Pharyngea*	1		——— *erysipclatodes*	4	
Diarrhœa	59		——— *scabida*	1	
Dysenteria	14	1	Ischias	2	
Dyspepsia	79		Ischuria	2	
Dyspnœa	25		Lepra	3	
Dysuria	14		Leucorrhœa	29	
Ecthyma	3		Lichen *simplex*	5	
Eczema	2		Lithiasis	2	
Eneuresis	4		Lumbago	3	
Enteritis	2	1	Mania	7	
Entrodynia	22		Melancholia	7	
Epilepsia	8		Menorrhagia	22	
Epistaxis	8		Miliaria	2	

DISEASES.	Total.	Fatal.	DISEASES.	Total.	Fatal.
Morbi *Infantiles**	95	5	Psoriasis *gyrata*	2	
Morbi *Biliosi*†	65		——— *inveterata*	2	
Nephritis	4		Purpura *simplex*	1	
Neuralgia	11		Pyrosis	11	
Obstipatio	40	1	Rachitis	4	
Odontalgia	26		Rheumatismus *acutus*	57	
Opththalmia	37		——— *chronicus*	66	
Otalgia	5		Roseola	3	
Palpitatio	4		Rubeola	8	
Paracusis	2		Scabies	83	
Paralysis	10	1	Scarlatina *simplex*	6	
Paraplegia	1		——— *anginosa*	5	
Paronychia	7		Scirrhus	2	
Peripneumonia	5		Scorbutus	6	
Peritonitis	6		Scrofula	21	
Pernio	8		Spasmi	11	
Pertussis	26		Splenitis	1	
Phlegmasia *dolens*	2		Strictura	11	
Phlogosis	20		Strophulus *intertinctus*	3	
Phrenitis	4		Syncope	3	
Phthisis *Pulmonalis*	41	17	Syphilis	37	
Pityriasis	2		Tabes Mesenterica	8	1
Plethora	5		Tic Doloreux	1	
Pleuritis	22		Vaccinia	62	
Pleurodyne	9		Varicella	6	
Pneumonia	25	4	Variola	26	6
Podagra	19		Vermes	36	
Polypus	1		Vertigo	25	
Porrigo *larvalis*	12		Urticaria *febrilis*	7	
——— *scutulata*	6		——— *evanida*	2	
——— *favosa*	2		——— *confertus*	1	
Profusio	1				
Prolapsus	4		Total of Cases	2453	
Prurigo *mitis*	3				
——— *senilis*	4		Total of Deaths	......	78
Psoriasis *guttata*	4				

* *Morbi Infantiles* is meant to comprise those Disorders principally arising from dentition or indigestion, and which may be too trivial to enter under any distinct heads; *Morbi Biliosi*, such Complaints as are popularly termed *bilious*, but cannot be accurately classed.

Observations on Prevailing Diseases.

There is little to remark upon the state of the atmosphere or upon the diseases of the period the present Register embraces.

The majority of cases of Typhus were of the mildest kind; but evidently infectious. The former cases, which terminated fatally, were of poor women who were far advanced in years, and whose vital powers seemed to give way at the commencement of the disease; so that the only urgent symptom in them were, excessive and sudden debility; except in one, whose body was covered with ecchymosis on the third day from the attack.

One of our Reporters who has the charge of a charitable institution, inserted in the last Register, *one hundred and fifty-two* cases of Scabies. The poverty, bad diet, and consequent distress of the lower classes, afford a ready but melancholy solution of this return; otherwise it would have excited some surprize.

LITERARY NOTICES.

Dr. Thomson has commenced the printing of a New Edition of his "System of Chemistry."

Sir William Adams is about to publish "A Practical Inquiry into the Causes of the frequent Failure of the Operations of Extracting and Depressing the Cataract; and the Description of a New and Improved Series of Operations, by the Practice of which most of these Causes of Failure may be avoided."

Speedily will be published, A Medico-Chirurgical and Biographical Chart of Medical Science, from Hippocrates to the present Period; exhibiting, in a condensed form, the Progress and present State of that Science; with short Biographical Notices of the most eminent Authors, in this and other Countries, who have contributed to enhance our Stock of Medical Knowledge.

MONTHLY CATALOGUE OF BOOKS.

CURSORY REMARKS on a BILL, now in the HOUSE of PEERS, "FOR REGULATING OF MAD-HOUSES;" its probable *Influence* upon the *Interests* of those concerned in their *Care* and *Management*. With Observations on the Abuses in the present System. By G. M. BURROWS, M.D. F.L.S. &c.

Reflections upon Oil of Turpentine; and upon the Present Condition of the Medical Profession in Ireland. By a Country Practitioner.

Outlines of Geology. By W. T. Brande, F.L.S., &c. 8vo.

NOTICES TO CORRESPONDENTS.

Communications from Mr. Mansford, Mr. Chapman, Mr. Blackett, Mr. Ilott, Mr. Cross, Mr. North, Studens, *&c. are come to hand.*

Mr. Bedingfield's *Hints are not lost upon the* Editors.

We have received, from Dr. Johnson, *a Reply, in refutation of* Mr. Hastings' *Observations on the Circulation of the Blood. It shall certainly appear in the next Number of the* Repository.

Communications intended for insertion in the subsequent Number should be sent before the 12th of the month; and should be addressed (free of expense) to Mr. Shury, *Printer, 7, Berwick Street, Soho; by whom Books for the Review Department, Articles of Intelligence, &c. &c. will also be received.*

This Publication, by application to the Clerks of the General Post Office, London; or, if previously ordered, of the Post Masters, British or Foreign, will be sent to any of the British Colonies or Foreign Countries, upon the same terms as other Periodical Works.

THE
LONDON MEDICAL
REPOSITORY.

No. 41. MAY 1, 1817. VOL. VII.

PART I.

ORIGINAL COMMUNICATIONS.

I.

A Case of Amputation, with some Experiments and Observations on the securing of Arteries with minute silk Ligatures. By JOHN CROSS, Surgeon at Norwich, Author of "*Sketches of the Medical Schools of Paris;*" late Demonstrator of Anatomy in the University of Dublin, &c.

ABOVE fifteen months have elapsed since Mr. Lawrence published an interesting paper in the Medico-Chirurgical Transactions*, on "a New Method of Tying Arteries;" and although the proposal of so able and celebrated a writer must have been received with eagerness and speedily adopted in practice by many surgeons, no additional information upon the subject has since been offered to the public. In the absence of communication from better sources, therefore, I have found the motive for putting together the few trials I have made, and begging the Editors of the *Repository*, if they should think them worthy of such a distinction, to submit them to the consideration of its numerous readers.

The originality of Mr. Lawrence's suggestion, to use fine silk ligatures, and cut them off close to the knot, has been questioned upon insufficient grounds. He not only seems to have undertaken this plan without knowing what was doing or had been done by military surgeons on the continent, but to have had a different view in the practice he suggested.

The number of sick that were often crowded into the same hospital, and the excessive fatigue which the soldiers had previously undergone, contributed to render the hospital gangrene very prevalent and destructive towards the conclusion of the late war. The progress of this disease was nearly in proportion to the extent of the wounded surface exposed; and whilst small wounds sometimes escaped, large ones were almost sure to suffer. Hence the military surgeons, who were the first in France to adopt the English plan of uniting stumps by the first intention, derived an additional motive for recommending it. Immediate union after amputation, diminished the frequency of hospital gangrene, but did not altogether prevent it, the ligatures keeping up a suppurating surface, which communicated with the external air. To avoid this inconvenience, the ligatures were cut off close to the knot, and the stump accurately closed; and as often as complete union took place, the patient was secured from the contagious disease*.

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* Vol. vi. p. 156.

Most new things originate in some suggestion from existing circumstances. Whether the military surgeons of France or England were the first who cut the ligatures short, I am unable to determine; but the former seem to have tried it to the greater extent. Those who have noticed it in their writings, say nothing of the kind of ligature employed, from which we may fairly conclude that they used those of the common size; and although they probably never dreamt that the ligatures thus buried would be absorbed, or remain quiet in the stump for life, they were justified in leaving them to their fate, with the hope of obviating one of the worst complication of wounds with which the military surgeon has to contend.

The ligatures were afterwards cut short by many surgeons in the army, without reference to the occasions that first rendered the practice adviseable. When, however, there was no contagious disease to be prevented, the advantages gained were so small as to be easily outweighed by the unpleasant consequences that sometimes followed; and an excellent modern writer on Military Surgery has given his testimony decidedly to this effect: when the short ligatures have been buried in a stump, "I have seen†," he says, "some ill-looking abscesses formed by them, and I suspect some disagreeable consequences will occasionally ensue, if this practice be continued."

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* "Pour éviter cet inconvénient," says M. Delpech, "nous avons pris le parti de ne plus réserver des bouts de ligature, et de couper les fils contre le nœud, afin de n'avoir plus d'interposition, et de pouvoir faire une réunion exacte et complète. Dès lors n'ayant plus de plaie extérieure, nous n'avons plus eu de pourriture à la suite des amputations."—*Memoire sur la Pourriture d'Hôpital,* par *J.* Delpech, p. 29.

† Guthrie *on Gun-shot. Wounds,* p. 94.

It is so well known that a stump will unite over a ligature of the common size, that the teacher has to direct the young surgeon to be careful in bringing all the threads out of the wound, lest such an occurrence should take place, and lay the foundation of future mischief. I have seen suppuration and breaking out of a stump six months after amputation of the fore-arm, and a ligature an inch long discharged, which had been overlooked in the closing of the wound, and buried under the integuments; and the blunders of operators have, no doubt, given many others an opportunity of ascertaining the same fact.

The use of ligatures of the finest silk, cut off close to the knot, is not proposed by Mr. Lawrence to guard against any prevalent and destructive disease, but to obtain a more speedy and complete union of wounds after operations, and to diminish the chance of hæmorrhage, by avoiding the irritation which large ligatures excite; and the statement which he detailed of his experience, gave me so much confidence in the safety of the practice, that I was induced, without previously making any experiments on animals, to try it, soon after that gentleman's paper came to my knowledge, in the following case of amputation.

M. E., a young woman, with engaging features and small, well proportioned body, aged 23 years, was seized with violent pain of her right knee, two years before, when in bed, and was soon succeeded by a degree of swelling. The disease, from this beginning, went on progressively; the particulars of its history I do not know, nor would they, collected from report, be of much value. Fomentations, blisters, and mercurial ointment, had been used at different times, previous to the occurrence of suppuration. During the last four or five months, she had been under the care of a particular friend of mine, a most respectable surgeon, who had evacuated abscesses around the joint, and kept open issues on each side of it for many weeks.

I visited this patient on the 26th of January 1816; her suffering and the state of the diseased joint were such as called for the operation I went to perform. Her easiest posture was on the back, with the thigh drawn up towards the abdomen, the affected knee being permanently bent to a very acute angle, and the slightest attempts to alter the angle of flexure causing excruciating pain. The issues had been healed; there were two sinuses discharging ill-conditioned matter. Above the patella, was a swelling, extending three inches up the fore-part of the thigh, and bulging out on each side of the tendon of the rectus femoris muscle, which seemed to contain a fluid. The thigh was wasted so as to give the knee an appearance of being greatly enlarged. The patient's health had not suffered seriously, so as to make the performance of amputation of urgent necessity; but she was tired of long protracted suffering, and had firmly made up her mind to the only means which, in such a state of disease, could afford her permanent relief.

It is unnecessary to mention the particular steps of the operation. In making the circular incision of the integuments, I had some difficulty in bringing my hand underneath, in consequence of the acute angle which the leg made with the thigh; and this compelled me to cut higher than otherwise was absolutely requisite. All the parts cut through were in a healthy state, the incision being some way above the swelling on the fore part of the thigh. I had with me some of the smallest dentist's silk that I could procure, yet of such strength that I could hardly break it by pulling with my hands, on account of its cutting into my fingers; with this I tied the main artery, (pulled out with the forceps so as to be free from all surrounding parts,) and immedintely cut the thread off close to the knot. The tourniquet was then loosened, and five or six smaller vessels tied, being taken up with the forceps and separated as much as possible from surrounding soft parts. Upon some of these I only put one, upon the rest two, of the three twists which composed the silk with which the main artery was tied. I found an inconvenience from having cut off the first thread close to the knot immediately after applying it; in looking for other vessels, I did not know exactly where the ligature already applied was situated; and, had it been on a smaller vessel, there might have been danger of my pulling it off with the forceps in searching for other vessels, as the stump was very little disposed to bleed. I therefore consider it an useful caution not to cut off any of the threads close to the knots, until all the vessels requiring it are tied. I observed this rule with respect to the smaller ligature; when I had cut these off, I brought the skin accurately together by strips of plaster, leaving a small space between each strip, and put on a very light covering of linen. After I had applied one or two strips of plaster, I pressed out several bubbles of air from under the skin, which, if left, would have done much mischief, increasing suppuration, and preventing adhesion by keeping the surfaces of the wound from being in contact. It is of considerable importance to be thus careful in dislodging every particle of air in closing the stump; the air is most likely to lodge where the integuments are abundant.

On the morning after the operation, the stump was easy and cool, and the dressings scarcely soiled with the discharge. On account of her residence being at a great distance from Norwich, I did not see the patient again; and the first report

I received from the surgeon who continued to attend her, was not very flattering, a considerable quantity of unhealthy matter having escaped on taking off the dressings on the fourth day, and vesications having formed on the face of the stump. The reply which I made to this report will give some notion of it:—"As you seem to despond of our patient, I must do so too; but I confess you have not furnished me with all the grounds of such an opinion, unless I consider her being "placid and willing to die" as bad signs; for people are rarely willing to die, until they think there is no longer any chance for their living. The bad signs must be drawn from the pulse, the spirits, and the appetite; and if, in these respects (about which you have told me very little) there be nothing very unfavourable, I cannot think that matter forming, and a stump not uniting immediately, are sufficient reasons for at once desponding. If the integuments of the stump be flabby and inactive, it should, perhaps, rather be kept warm, and action promoted. At any rate do not let the patient sink for want of the strength being supported by good broth, bark, and cordials if required; and, as matter must form, leave a free opening for the discharge of it."

On the eighth day after the operation, I again heard of the patient. Her health had been improved by bark and nourishing diet, and cold applications, aided by the fan and bellows, had been found necessary for conducting off heat from the stump. At the end of three weeks, there was only a quill-hole opening on the face of the stump, discharging matter; the rest of the stump being very neatly united.

Six weeks passed away before the stump was quite healed; and during the four or five succeeding months, small collections of matter were repeatedly formed, and discharged; the patient being, however, able to go about well, with the assistance of an artificial leg. In January last, twelve months after the operation, I learnt that the stump continued to be soundly healed. None of the ligatures left on the arteries were found in the discharge from the stump; but I do not regard this as an argument that they were not discharged, as the researches for them were slight, and the secretion of matter very abundant.

A short account of the appearances found on dissection of the amputated limb, will not, it is hoped, prolong this paper to a tedious length.

The external openings, which had formed at different times for the evacuation of matter, communicated with large cavities on the inner and posterior parts of the knee, extending half way down the leg, above the fascia enveloping the muscles. The swelling above the patella, which was supposed to contain matter, consisted of a semi-transparent gelatinous mass, streaked with white opake lines, into which the synovial membrane at that part had been converted. This mass, in some parts two inches in thickness, formed convex prominences on each side the tendon of the rectus muscle, which were covered thinly by the expanded vastus internus and vastus externus muscles. The synovial membrane on all sides was diseased, in some parts being firmer and less gelatinous than just mentioned; in other parts of a light brown appearance; in others ulcerated through, forming communications between the superficial abscesses first described, and the cavity of the joint. The semilunar cartilages and their ligaments were entirely gone; the corresponding surfaces of the tibia, femor, and patella, were denuded and rough. The parts of the articular surfaces of these bones, which were still covered with cartilage, had it very slightly adhering to them, and no synovial membrane upon them. There was no pus accumulated in the cavity of the joint, but its surfaces were bedewed with a brownish discharge, like what used to flow from the external openings. The head of the tibia was soft enough to be cut with the scalpel, but none of the bones were enlarged. The lateral and crucial ligaments were healthy. The fixt and bended position of the limb seemed to be owing to contraction of the flexor muscles, and not to the diseased structure preventing the motion of the joint; for, after the diseased mass was taken away, the joint still remained fixed until the flexor muscles were cut through. The diseased mass, as it has appeared to me, from this as well as other instances, limits flexion and extension, but never goes so far as to fix the joint completely. There was much fat around the joint.

This is rather a striking example of the disease described by Mr. Brodie, in the fourth and sixth volumes of the Medico-Chirugical Transactions, under the title of a Morbid Change of Structure of the Synovial Membrane. Like other morbid structures, it tends, after having proceeded to a certain extent, to go into ulceration; and this process, I am inclined to believe, commences generally on the outer surface of the diseased mass, and proceeds inwards towards the cavity of the joint. The superficial abscesses, which form before the joint becomes exposed, come in aid of this opinion; and I have repeatedly seen ulceration on the external surface of this morbid structure, without its extending deep into it*.

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* I have seen only one instance of this disease in the elbow joint. Amputation was performed at an advanced period; the diseased structure projected like a fungus over the edges of the articular surfaces of the joint, which were ulcerated and rough; and superficial abscesses communicated with the cavity of the joint by ulcerated holes through the diseased mass.—I have no doubt that the *Glied-*

The use of the minute silk ligatures requires dexterity, and is attended with difficulties that amount to strong objections in the hands of many who have to perform operations. The vessel ought to be drawn out clean from all the surrounding parts, which is not always very practicable; and it may even be necessary, when there is a rapid oozing of blood from any spot, to use the tenaculum, and take up some of the soft parts with the vessel; in which case, to cut the ends off close to the knot, with a view of leaving the ligature to be buried in the stump, would be objectionable, however small the ligature employed. The experimentalist, who feels more than a common interest in the result of his trials, may give a degree of attention that will obviate all lesser evils; but in estimating a practice that is proposed for general adoption, we must calculate upon no more than a moderate share of attention and dexterity in the operator. It is clear to me that the surgeon, who has not a microscopic eye, will be longer occupied in applying the minute than the common ligature; the patient will be kept longer on the table, and the stump exposed for a longer time. Convinced of these points, I was desirous of prosecuting some experiments which might contribute to ascertain the advantages of the practice in question; an undertaking in which there was no great presumption, as Mr. Lawrence had acknowledged that he had not gone far enough in his inquiries to make up his mind upon the subject.

Experiment 1st.—I exposed the right * carotid artery of a

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schwamm, or *Fungus Articuli* of German writers, refers to this disease. Böttcher, following the account first given by Brambilla, describes the disease as "increasing slowly, free from pain at the commencement, elastic to partial pressure like a sponge; and when there is much deep-seated pain, it indicates that the disease is complicated with suppuration and caries." The disease was considered to originate in the appendages and cellular substance around the joint, the anatomy and structure of the synovial membrane being at that time little understood. The morbid growth is certainly not long confined to the synovial membrane, but involves the neighbouring parts and converts them to its own nature; for after injecting a limb which had been removed on account of this disease, I have found the superior articular arteries, passing through the midst of the morbid and gelatinous mass, to reach their usual distribution.—(See *Böttcher, Krankheiten der Knochen, Knorpel,* and *Sehnen.* Band, 3. S. 225.)

* I preferred the carotid, because it is situated so much deeper than the arteries of the extremities. The coats of the vessel were dissected clean before the ligature was applied, and the threads were always cut off close to the knot. In the instances in which dentist's silk was used, it had been previously washed.

large rough-coated water-dog, and tied it with very fine Indian silk, which I could just pull tight enough, without danger of breaking it, to compress the artery. At the expiration of a fortnight, I put a single ligature of the same kind on the left carotid. The wounds from both operations healed quickly. The dog continued healthy, and became fat. Seven weeks from the first operation he was killed and injected. The injection was continuous throughout the whole of the right carotid, but the vessel was contracted at one part to half its former diameter, the ligature having only been drawn tight enough to compress, without obliterating the vessel. I found the ligature surrounding this contracted part of the vessel, buried in, and every where in close contact with a substance more dense than the arterial coats; I only detected it by very careful dissection, and the help of a magnifying glass. The knot was perfect, and the whole circle of the ligature entire. The left carotid presented very different appearances; two inches of it were obliterated, and converted into a dense cord, which was swollen out a little at one part to the size of a coriander seed; and here I found the ligature, surrounded by a firm and almost ligamentous substance.

From their situation, I am inclined to believe that these ligatures would have remained during the life of the animal. The history of extraneous bodies in the living system affords nothing in favour of a contrary supposition. Extraneous substances, after lying a long time buried and concealed, have excited suppuration, and made their way out of the body; but they have been weighty: and on this or some other account, have gradually changed their situation, until, coming near the surface, they have excited irritation, and given rise to a process which has enabled them to be discharged. Supposing these ligatures would cause suppuration, and be discharged externally, when brought near the surface of the body, their weight is not sufficient to change their place, and bring them into such a situation; nor is there any other process by which they are likely, as far as I can conjecture, to be transferred near to the surface of the body, when once surrounded by a firm ligamentous structure.

It is necessary, however, to consider the difference between applying a ligature to the continued trunk of an artery, and to the extremities of vessels exposed by operations. In the latter case, a portion of the vessel becomes nearly insulated, and the sloughing of this may involve the fate of the ligature. In subsequent experiments, I endeavoured to profit by this observation.

Experiment 2nd.—I tied the right carotid artery of a thin small dog with one of the three threads which compose the smallest dentist's silk. I put on two ligatures, at the distance of half an inch from each other, and divided the vessel between them. In forty-eight hours the wound was soundly united, and I therefore took out the three stitches with which the wound had been brought together, lest, by remaining, they should cause the wound to burst open again*. The left carotid was tied, three weeks afterwards, with a single ligature of the same size; the animal tore the wound open, and it was not united until ten or twelve days. Six weeks from the first operation, the animal was killed and injected. The two ends left by the division of the right carotid were an inch distant from each other. Near the upper end of the vessel, there was a swelling bigger than a pea, which proved to be a cavity filled with matter; and, on puncturing it, the matter escaped, and with it one of the ligatures. I did not find the ligature which had been applied to the other end of this vessel. The left carotid was impervious for the fourth of an inch. The parts were all sound, and no ligature to be detected; it had probably escaped by the external wound, which was so long before it healed.

Experiment 3d.—I put a single ligature of the smallest dentist's silk on the left carotid of an ass. On the same day, my friend, Mr. Stevenson, put two similar ligatures on the right carotid, and divided the vessel between them. The wounds suppurated, and much matter was discharged, in which the slough of one end of the right carotid was observed. On the sixteenth day from the operation, this animal was attacked with tetanus, and died on the twenty-sixth. Neither of the wounds had completely healed. On dissection, I found the three ligatures under different circumstances. On the right side, there was a purulent cavity down to the ends of the divided vessel, which were an inch and a half asunder, and both ligatures were found in the matter contained here, wholly unconnected with the artery. There was also the slough of one end of the divided artery, imbedded in matter, and unconnected with the ligature. On the left side, there was a cavity of pus at the part where the vessel was tied, and the ligature was firm upon the artery, not however covered over with any healthy living structure, but in contact with matter.

Experiment 4th.—A dog was kept four months after the application of very minute silk ligatures to each carotid artery. Both arteries were obliterated, the parts all sound, but no ligatures could be detected by the most careful examination. The probable explanation is, that the ligatures had escaped unobserved before the wounds closed, as these did not unite by the first intention. The results of other experiments render it quite unlikely that they were absorbed.

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* This remark is equally applicable to the human subject. Whenever sutures are used, they loosen themselves by the second or third day, and can do no good by remaining longer, but very often do harm, by causing inflammation, and re-opening of the womb.

Experiment 5th.—Two ligatures of small Dutch twine were put on the left, and one on the right carotid of a dog, the ends being cut off close to the knot. On dissection, seven weeks afterwards, I found each of the ligatures in a small bed of matter, of the size of a pea, near the vessel to which it had been applied.

Experiment 6th.—I tied the right carotid of a young dog firmly with one of the three threads which compose the smallest dentist's silk. Three weeks afterwards, I tied the left carotid with two ligatures of the same size, and divided the vessel between them. Both wounds healed quickly and remained healed. The dog was killed at the end of thirty weeks, and successfully injected. On the right side, I found three quarters of an inch of the artery obliterated, and the ligature unconnected with it, being buried in a small quantity of brownish matter. On the left side I met with a similar abscess, of the size of a pea; and in the matter which it contained I found both the ligatures which had been applied to the artery precisely twenty-seven weeks before. The ends of the divided vessel had contracted so as to be above an inch and a half apart; hence it seems that these ligatures must, at one time, have been contained in separate abscesses, which had approximated until they coalesced*.

On both sides, I found a small vessel or two proceeding from the lower to the upper portion of the artery, as if nature had begun the work of forming a substitute for the part obliterated, in the way described by Dr. Parry. This is the only instance in which I have seen this process taking place, probably because I have not examined the parts at a sufficiently remote period from the obstruction of the circulation by ligature. These communicating branches were not above one-fortieth of an inch in diameter. Their enlargement seems to be a very slow and gradual process; but there is no reason why it should not go on after having once commenced, until the motive for this enlargement no longer exists, the blood taking the most direct course to the parts to be supplied with it.

The experiments which I have detailed, have, in some respects, afforded different results from those which Mr. Lawrence made, and lead to the following conclusions, which are not very favourable to the employment of the minute silk ligatures after operations.

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* This may help to explain why I failed to find one of the ligatures applied to the right carotid in Experiment 2d, where the wound healed too quickly for it to have escaped.

1st. If the wounds do not unite by the first intention, the ligatures may escape with the discharge, without any inconvenience.

2nd. If common ligatures of twine are cut short, the wound may unite over them, and they may be found in abscesses after an interval of many weeks.

3rd. If the finest dentist's silk be employed in the same way, the wound uniting over it, the ligature may be detached from the vessel, and remain buried in an abscess, where it will be found at different periods, from one to seven months; and this may happen, whether the vessel be firmly compressed with a single ligature, or divided between two ligatures, so as to imitate the circumstances under which vessels are tied after operations.

4th. If Indian silk, fine as a hair, be put round a vessel, so as to diminish its diameter, or to effect its obliteration, by just compressing its sides together, it may remain in this situation without exciting abscess, or producing any inconvenience. The ligature may be thus applied to compress an artery for the cure of aneurism; but not to secure vessels divided by operations. If a thin ligature be drawn sufficiently tight upon a vessel on the face of a stump to be secure, I am persuaded that the extremity of the vessel, which becomes insulated, as it were, must die. How often do we see this slough of the main artery of the thigh come away with the ligature!

Mr. Guthrie considers that cutting the common ligature close to the knot is a valuable improvement in all cases, that will not unite by the first intention, which is following the practice with a view diametrically opposite to that of its advocates; and I should almost have been tempted to say as much of the minute silk ligatures, had they not been recommended by a high authority. To heal a wound so quickly that these ligatures become buried, seems, however, no desirable object; since they frequently, if not always, excite abscess when applied to the deeply seated carotid of an animal possessed of a system, much more capable than the human of resisting violence and repairing injury. The minute silk ligatures seem to secure well the vessels to which they are applied; and so do common ligatures of silk or twine, hæmorrhage from the vessels which have been tied being a rare occurrence in a healthy wound. The minute ligatures, when firmly tied, separate quickly, and pass away with the discharge; the common ligature, tied tight, also separates quickly, and might be removed much sooner than generally happens, were it not for the unfounded fears of the surgeon. The end of a ligature sometimes rises half an inch further out of the wound than at the preceding dressing, but resistance is felt because the granulations have grown so as to form an isthmus too narrow for the knot to pass. Where this change has taken place, no danger is to be apprehended from bringing the ligature away, as it is already at a distance from the artery to which it had been applied.

Ought the surgeon readily to give up the comfort of knowing that all the ligatures, particularly the one from the main artery, are away? Have the minute short ligatures any other advantages than that of avoiding the irritation of threads hanging out of the wound? Are there not sufficient objections to their being employed generally in practice, however applicable to particular cases? may not the surgeon who is less frequently engaged in operating, include with the artery a neighbouring nerve?

I conclude with these queries, under the hope that those surgeons, who have been captivated with Mr. Lawrence's ingenious proposal, may answer them by giving publicity to their experience upon the subject.

II.

A Reply to Mr. Hastings' Remarks on the Circulation of the Blood. By James Johnson, M.D. of Portsea, Hants.

> "Quand deux sens, la vue et la touche, aussi parfaits par leur réunion,
> "ne nous disent rien, *comment oser recourir au raisonnement* pour
> "admettre un mouvement alternatif de dilatation et de contraction dans
> "les arteres?" *Dictionnaire des Sciences Medicales.* Tom. v. p. 236.

WITHOUT wasting the valuable pages of the *Repository*, or my own time, in prefatory observations, I shall proceed, at once, to the consideration of Mr. Hastings' strictures on my reply to Dr. Parry's paper in the *Medico-Chirurgical Journal and Review for November last.*

I.—Mr. Hastings has filled more than two pages with unnecessary arguments, to prove that a bladder is not a heart; and that the ileum of a calf is not the aorta of a man. A thought never entered my mind, a word, I hope, never escaped my lips or pen, to authorize the supposition that I could, for a moment, expect to imitate the *structure* and *functions* of the heart and arteries by a dead machine. Mr. Hunter himself (On the Blood, vol. i. p. 238), and many able physiologists, having regarded the circulation of the blood as a *mechanical effect* resulting from a *vital cause*, all I aimed at was, to illustrate certain phenomena in the former, particularly the pulse, by an apparatus which, though dead in itself, was kept in motion by the vital action of my hands. In this instance, however, I shall put the apparatus entirely out of the question, and discuss the subject on the basis of anatomy, physiology, and direct observations on the *living machine.*

II.—(*Repos.* p. 198), "The aorta, at its root, is plainly muscular, surrounded in circles with great fibres." On what grounds does Mr. Hastings, or his authority, John Bell, found the *muscular* structure of the aorta? Does he know that these fibres are destitute of fibrine, the characteristic of muscle, as proved by Berzelius and Young? Does he know that they are unmoved by any stimulus, chemical or mechanical, as proved by Haller and others? Does he not know the difference between muscular *irritability*, which they do *not* possess, and organic *contractility* or tonicity which they do?

III.—The *opinion* of Dr. Gregory is brought forward to prove that the pulse is owing to a *dilatation* of the artery. "Hæc distentio pulsus est." [199]. As an antidote to this *opinion*, I refer to the actual *experiments* of John Hunter, Bichât, and Dr. Parry. Mr. Hastings, apparently afraid to rest on the dogma of Dr. Gregory, strikes out into a new path of his own. Dr. Parry having in a very *few* of his experiments, observed, *when the arteries were denuded and detached, and the parts placed in a relaxed position*, a certain loco-motion, or longitudinal movement in the carotids, corresponding to the systole of the ventricles, the greatest extent of which was, "*about one and a half times the diameter of a thread.*" [Ex. xxi.] Mr. Hastings endeavours to estimate the *longitudinal motions* of the aorta; and by the help of the 13th problem of the 11th book of Euclid, he makes them, on a moderate calculation, to be nearly *two inches* [1¾ inches] leaving another elongation of similar extent to the remaining portion of arterial tubes!! It is somewhat singular, to use Mr. Hastings' own expressions, that he did not prefer a glance "at the circulation in the *living* animal" to his geometrical calculations. But I shall assist him on this occasion. "The abdominal aorta was then exhibited, and denuded of the peritonæum for a considerable extent. We could not, either with the naked eye or the lens, discover in this artery any movement, whether longitudinal or otherwise." *Parry on the Pulse*, p. 12. So much for the elongation of the aorta!

III.—At page 200 Mr. H. asks, how it is that, if the arteries are *inert tubes*, (which I never represented them by the bye,) ossification of the aorta produces faintings, &c.? This is a question which Mr. Hastings will probably wish he had never started. Morgagni [Lett. xxiii.] found the aorta, even to the iliacs, converted into bone. The woman had palpitation; but

Morgagni by no means attributes it to the ossification; for he says, "at the same time, it is necessary to declare why, out of *so great a number* of persons in whom there was an aorta of *this kind*, many of them certainly did *not* labour under these disorders (palpitations) at all." Fallopius [de part. Similar, c. x.] asserts, "that he had seen in an old woman *all the arteries* on the left side degenerated into bone." Harvey also found, in the body of a nobleman, the aorta and crural arteries "totally converted into a bony tube." In some of the periodical publications, within the last two years, (the place I cannot call to mind, but it must be in the recollection of many of the readers of the Repository) an instance was related of an old gentleman in whom the arteries, even to the ankles and wrists, were universally bony or cartilaginous. Now, I would ask Mr. Hastings how, in these instances, dilatation and contraction corresponding to the pulse could be effected? Of the numerous and accurate examinations of arteries in living animals, by Dr. Parry, I shall only quote the following, as from the size of the vessel (more than an inch and a quarter in circumference) no possible mistake could be made.

Present Mr. Norman, Dr. C. Parry, Mr. Coombs, Mr. Sewel, &c. Several inches of the right carotid artery of a large old horse were laid bare: the pulse was 48; the artery was long and attentively examined. "No person could discover the least degree of dilatation or contraction of the artery during the the systole and diastole of the heart. No motion of a longitudinal kind occurred from respiration. In reality, the artery appeared altogether quiescent." The artery was examined with a strong lens, and with threads slightly wound round it, "but we could not discover any change of place, whether absolute or relative, in these threads." p. 29. Now, may I not fairly ask, after these decisive experiments, in the language of my motto, how any one dare to recur to *reasonings* [and calculations] on the alternate dilatation and contraction of arteries in the pulse, when both sight and touch demonstrate the contrary? Where now is the applicability of calculations from Euclid?

IV.—Mr. Hastings, throughout his paper, is constantly harping on the string of my considering the arteries as "inert tubes;" and certainly those who have not read my letter, must think me, from Mr. H.'s account, most intolerably ignorant. In accounting for the continuance of a stream of blood, during the *diastole* of the heart, where an artery is wounded, I have said—"In ordinary states of the circulation, the calibres of the arterial trunks are greater than they would *assume*, were they not distended with blood; hence it is evident, that they will continue to pour out their contents during systole and diastole, through any *artificial* opening, till their elastic and muscular coats can no longer contract. *This elasticity and contractility of the arteries* producing precisely the same effect as the pressure of water in the cistern produces on the leaden pipe that leads from it." *Medico-Chirurgical Journal, Nov.* 1816, p. 363. How can Mr. Hastings then represent me as considering the vascular system as bundles of *inert tubes?* Does he suppose me ignorant of the experiments of Hunter on the horse, and funis umbilicalis? Does he suppose that I never saw an artery divided? Does he suppose I am ignorant of the circumstance that arteries and veins are perpetually altering their calibres, and accommodating themselves to the ever varying quantities, local and general, of the circulating fluids? These are the important purposes for which, as I conceive, the elasticity and tonicity of the vessels were designed, and not for dilatation and contraction in the pulse, as I shall presently prove.

V.—[*Repos.* p. 201.] "How will Dr. Johnson account for the circulation in animals without hearts, and monsters arriving at the full periods of utro-gestation, &c.?" In answer to this question I shall quote *Rees's Cyclopædia*, a source as authentic as any in England. "In animals *which have a circulation*, it is continually collected in a *central reservoir*, whence it is *forcibly expelled* to all parts. If this arrangement be not found in insects, the reason probably is, that their nutritive fluid is not contained in vessels, that it does not come from a common source, and consequently that it could not undergo any modification in a separate organ, before arriving at the parts. Those naturalists, who have observed with the microscope the transparent parts of insects, have discerned *only a fluid at rest*, bathing them on all sides. In a word, as the blood *cannot* go in search of the air, the air is every where brought in contact with the blood." *Vol.* 19, *Art. Insects.* After this quotation, I beg leave to felicitate Mr. Hastings on the ingenuity and success of his akerious question. As to *heartless* monsters, dragging on an existence till the period of separation from their parent's womb, it proves no more than that nature enables the blood-vessels to act *vicariously* for a heart, in the same manner as the nerves act *vicariously* for a brain, in acephalous monstrosities. Where there *are* brains and hearts, these akerio-acephalous offices are abolished as *sinecures*, and the nerves and blood-vessels perform their own proper functions, without trenching on those of other organs*.

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* "The conclusion drawn from the circulation and growth of akerious fœtuses, is a mere *Argumentum ad ignorantiam*, which furnishes no proof of the mode of circulation in full grown and perfect animals, after exclusion from the womb." *Parry on the Pulse.* p. 121.

A word or two more on this subject. Supposing the heart absent, and that the veins terminated in the root of the aorta: supposing the arch of the aorta in this case, surrounded with a few more fibrous bands than usual, (no very unlikely or extravagant supposition,) and capable of contracting, as Mr. H. admits it now to be: when it contracted on the contained fluid, that fluid could not pass back into the veins on account of the semilunar valves; it would therefore shift its seat to the descending aorta; and, as Bichât expresses it, the whole sanguineous mass would advance "*par un mouvement de totalité.*" As the blood by this time would swell the heads of the venous columns, the moment the aorta dilated by its elasticity, a portion of blood would rush in from the venous system, and thus an imperfect circulation would be kept up, as in akerious monsters. Thus, even in these instances, it is only a *portion* of the arterial system that would act *vicariously* for the deficient heart; all the rest of the vascular system would still perform their proper parts as arteries or veins.

VI.—Dr. Leacock's experiments on transfusion are next quoted to prove the dilatation and contraction of arteries. Alas! how difficult of execution is the precept Γνωθι σεαυτον! The *ileum of a calf*, in the hands of Dr. Johnson, is every thing that is ridiculous, every thing that is inconclusive. But the *ureter of an ox*, in the hands of Mr. Hastings, is demonstration itself! In the first place, without being present at the experiments, I can correct Mr. Hastings' description of the tube—"about *three* inches in length," since Dr. Leacock's words are—"tubulum ferè *sex* digitos longum." [*Thesis*, p. 13.] This is only stated to shew the want of *accuracy* of Mr. Hastings. [The plate represents the tube *six inches* long, independent of the reeds.] In the second place, as the ureter of the ox was infinitely larger than the *recipient* vessels of the dogs and cats, what could cause it to *swell and grow turgid* by a *small stream* of blood, not half its size, if there were not more impediment to the *exit* than to the *entrance* of blood into the tube? Can Mr. Hastings fail to perceive, at a single glance, that the artery of the supplying animal pours blood into the tube in a rapid stream, and *without any obstruction*, while the force necessary to distend the vein of the receiving animal, must offer a constant check to the arterial saltus from behind, and produce that very phenomenon which I explained in my apparatus by means of the pierced cork. Thirdly, who ever denied "that a pulsation could be *felt*" in either an artery or in the apparatus, when a finger was applied? Was not this pulsation the principal part of my object in my experiments? Finally, I may fairly retort on Mr. Hastings his own words:—"I would now ask what evidence is most entitled to confidence—Mr. Hastings's ureter, or *real blood* *vessels?*—An imperfect copy, or the original?"—*Vide Dr. Parry's Experiments on various Arteries.*

VII.—But the capillary circulation. Mr. Hastings evidently appears to consider this as his strongest position, and yet it may possibly turn out to be the weakest. Not having much experience in microscopical observations, I must here trust to the statements of others; and they will be deemed the more conclusive, as they are not *ex parte* evidence.

Dr. Wilson Philip having passed a ligature round the great cardiac vessels of a frog, and then cut out the heart, the circulation continued to the capillaries for some time, and gradually ceased.

This is an old experiment, and has been perfectly accounted for, both by Hunter and Parry; the latter having shewn why, "in the experiments of HALLER, the circulation of the blood proceeded, for a certain time, in microscopic arteries, after ligatures on the aorta, or even the entire separation of that artery from the heart. The larger arteries continuing to contract by their *tonicity* [not alternate dilatation and contraction], the blood during that period must necessarily have gone on, suffering slow propulsion from them into the smaller or capillary branches of the same system, and through that into the veins." *On the Pulse*, p. 82.

Has Mr. Hastings yet to learn, that *his* kind of arterial action would, in the foregoing circumstances, produce no progressive motion in the capillaries at all; since each arterial dilatation would *draw back* as much blood as the preceding contraction had *pushed forward*, there being no supply from behind! Such are the mazes into which the dilatation and contraction theory leads its partizans!*

VIII.—"I would only recommend him," says Mr. Hastings, "once to put a frog's foot, or the *mesentery of a rabbit*, into the field of a microscope, and I think he will see that his contrivance has misled him. He will see, in the experiments I propose, that the globules of blood pass, like so many "billiard balls," if he please, globule after globule through the small vessels: he will occasionally see the globules stop for an instant, when there is pressure on the leg of the animal, or from some other external cause, or when the circulation begins to grow weak: but he will not see alternate motion and rest."

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* What would be thought of the man who, closing the air valve of a pair of single bellows, attempted to keep up a *continued* stream of air through the nozzle, by *alternate* dilatation and contraction? Yet the *usual* arterial action [dilatation and contraction] is concluded to be capable of keeping up a stream of blood through the capillaries *after* the heart is removed!

Repos. p. 203.—But audi alteram partem.—"In the larger arteries," says Dr. Thomson, "of the mesentery, or of the web in the foot of the frog, *the globules of blood are never to be seen in ordinary and healthy circulation.*"—"Our being able to see and to distinguish the globules, *even in the capillary vessels*, is at all times, the consequence of *diminished circulation*," Thomson *on Inflammation*, p. 81.

I shall now bring forward an authority for "alternate motion and rest," which all the reputation that Mr. Hastings has acquired in the experimental line will hardly induce him to question. "We may derive," says Bichât, "a very exact idea of the circulation by examining the *mesenteric arteries* of a living animal through the peritonæum. *At each pulsation* they appear to be raised *at once from their origin to their extremities.*" "The motion is *not progressive*, and the blood does *not flow*, properly speaking, but is pushed suddenly, by a *gentle shock.*" *Anatomie General.* Vide also *Rees's Cyclopædia*, *Art. Heart.*

Now, I appeal to every unbiassed mind, whether the above declaration from the most acute anatomist and experimentalist of the present age, does not unequivocally express, almost in the very same words, the ridiculed notion of alternate motion and quiescence in the mass of the blood. On this point, indeed, Bichât is very particular. He says, "as the arteries are always full of blood, the impulse produced by the left ventricle is felt *at once* through the *whole system* to its very extremities." "If a tube," says he, "dividing into a series of branches, which were again divided for any number of successive times, and completely filled with fluid, were connected to a syringe, the depression of the piston would cause an efflux from all the open branches at that *very instant.*" Here the distinguished Bichât does not seem ashamed to illustrate the circulation of the blood by a dead machine, which indeed is very similar to the one I invented. He considers, in short, the ventricular contraction, general movement of the whole mass of arterial blood, and passage of this blood into the capillary system, as three circumstances that occur *at the same moment.* "Hence," says he, "each ventricular ejection of blood remains some time in the arteries before it reaches the capillary system."

That arterial pulsations do not depend on contraction of the vessels, is proved by the following curious experiment of Bichât:—"Insert," says he, "a small tube into the brachial artery of a dead subject, and fix its other extremity in the carotid of a large dog. The artery at the wrist will immediately pulsate, though somewhat less strongly than in the living arm."—"The more attentively things are examined," says he, "the more perfectly shall we be convinced of the necessity that there should be only a *single* impelling agent for the arterial system, and that the *latter*, constantly *inert*, should not have the power of arresting the motions of the contained fluid."

IX.—Having thus brought the blood as far as the eye or glasses can trace with any kind of certainty to its motions, I could produce a host of authorities and experiments to prove that what passes in the *minute capillaries* is totally unknown. The *different* accounts which experimentalists give, are sufficient evidences of this uncertainty. But whoever doubts this statement, let him compare the various results of experiments made by Hales, Haller, Spallanzani, Wilson, and Thomson.

X.—Hales and Spallanzani agree in their having seen the motions of the blood sensibly accelerated at each systole of the heart, not only in the capillary arteries, but also in their corresponding capillary veins. Dr. Thomson observed these accelerations, particularly in the *veins*, but under disturbed and impeded circulation. "They can be traced," says he, "into the veins; and, indeed, in most of my experiments, *these accelerations from the impulse of the heart* were more visible in the veins than in their corresponding arteries." p. 80.

However this may be, I think I have proved that the blood proceeds through, and is delivered from the arterial system *per saltum*, that is, periodically, or corresponding with the ventricular systoles of the heart. It now remains for me to prove that the blood is delivered from the cardiac extremities of the venous systems *periodically* also. Here Mr. Hastings and I are at issue. "The blood from the veins," says he, "is entering the auricle, *in precisely similar quantities*, both during the *contraction* and dilatation." How a bag, open at both ends, can, *in contracting*, direct its contained fluid through *one opening*, without offering the slightest impediment to the *ingress* of a fluid at the other opening, is totally beyond my comprehension, although I have reflected on it in every possible point of view.

I believe it is allowed by the best physiologists of the present day, that there is the same quantity of blood at all times [in healthy circulation] within the confines of the pericardium; that is, that as much blood is received into the auricles as is discharged from the ventricles, during the *systole* of the heart; and that during the *diastole*, a portion of blood is merely transferred from the auricular to the ventricular chambers. On this plan, a constant equilibrium is kept up—the pericardium is always moderately filled by the heart, and lends a steadiness and appui to that organ. In support of this position, I shall quote the latest authors who have written on the Circulation—namely, Drs. Parry and Carson. "When the left ventricle contracts," says Dr. Parry, "it expels its blood, as for example two ounces, into the aorta; but it does not, as I have before explained, add that quantity to what existed before. It only displaces an equal quantity, *causing the whole mass to advance towards the right auricle;* which, at the *same instant,* receives *just as much* of the mass as was supplied by the ventricle." Vide *Dr. Parry's Letter in the Medico-Chirurgical Journal for November* 1816.—Dr. Carson, who has investigated this subject with great ingenuity and learning, states, that—"During this movement [auricular contraction and ventricular dilatation] *no blood is either received into the confines of the pericardium, or expelled out of them;* but a quantity is only transferred from one part of these confines to another." *Carson's Inquiry, &c.* p. 126.

Dr. Hales and others have calculated, that the time occupied in auricular contraction and ventricular dilatation, is, as nearly as possible, *double* that of the time employed in ventricular contraction and auricular dilatation. This being the case then, Mr. Hastings has, in the first step, committed a gross error in asserting that the blood enters the auricle "*in precisely similar quantities,*" during systole and diastole, since the latter operation requires double the time of the former! If the stream be *uniform,* as he asserts it is, then *double* the quantity *must* be admitted into the auricle during the diastole of the heart, which turns his position in one view. If *equal* quantities are admitted in both operations, then the stream *must* be accelerated and retarded, which turns his position in the opposite point of view! In no way then can he escape. Indeed, the supposition that *twice as much* blood [which must be the case, if the stream be uniform] enters the auricle *during its contraction,* as there does during its *dilatation,* is repugnant to reason. It involves in it this consequence, that at the *commencement* of each systole of the ventricle, there is precisely *double* the quantity of blood within the confines of the pericardium that there is at the *commencement* of the diastole*!

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* The following calculation on Mr. Hastings' hypothesis will elucidate this. Suppose a bilocular heart, for the sake of simplicity, to eject 12 drachms at each systole, and that there are 60 pulsations in the minute, the systole occupying 1-3d of the second of time, and the diastole 2-3ds. We will begin with the ventricle just ready to contract, and containing 12 drachms, the auricle contracted, but still holding 4 drachms. There will be in all 16 drachms in the two cavities. The ventricle expels its contents, and during the 1-3d of a second occupied on this operation, 4 drachms [the proportion of 12 to the second] runs into the auricle. There will therefore be at the *commencement* of the diastole of this heart, precisely 8 drachms of blood within the pericardium; whereas at the other period there were 16 drachms.—On this calculation also, it will be evident, that

I cannot, indeed, help wondering how Mr. Hastings and Mr. Bell could overlook the influence which the contractile nisus of the auricle must have on the stream of blood from the cava. The pressure of auricular contraction must operate in *all directions* on the contained blood, and surely, even granting that it could not stop, it must, in some degree, *retard* the entrance of the venous blood.

But lest the authority of Drs. Parry and Carson should not be equivalent to that of Messrs. Bell and Hastings, I shall notice the opinion of some others. "Haller [as quoted in the article Heart, *Rees's Cyclopædia*] considers that in a living and healthy heart, the whole contents are driven out, and that the appearances in experiments, *where the chest is opened*, and the creature is exhausted by tortures, cannot afford a criterion of the natural process."

It is somewhat singular that Mr. Hastings, after ridiculing an *inanimate machine*, should ground the truth of his positions on experiments made on the *dead bodies of animals!* Where, says he, we are "subject to no fallacy*"!!—"The auricles too," says Haller [loco citato] "of warm-blooded animals,

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the greatest quantum of blood at any time in the auricle, will never be more than *one-half* the greatest quantum in the ventricle. I leave anatomists to judge, whether the actual dimensions of the two chambers authorise this supposition.—I have referred to *C. Bell's Dissections* for the illustration of this hypothesis of the blood entering the auricle during auricular contraction; and I confess, with humility, that such is the dulness of my comprehension, that I cannot understand one sentence in ten of this illustration. I shall quote a sentence or two. "The great use of the auricle is to *prevent the action of the ventricle* upon the circle of blood contained in the vessels from propelling the blood round upon the ventricle, even whilst yet in its state of contraction." p. 49. What is the case then in animals that have ventricles but no auricles? I can gather, however, from Mr. Bell's theory, that it is grounded on the dilatation and contraction of arteries during the pulse—a dilatation and contraction which he says (p. 51) are "*imperceptible to the sight.*" Of this *imperceptible foundation* it is only necessary now to say—de non apparentibus et non existentibus eadem est ratio. After all, Mr. Bell proposes his theory as only a *question.*—*Vide* p. 49.

* Charles Bell seems to be of a very different opinion. "All observations," says he, "in experiments upon the dilatation of the vena cavæ near the heart—*the effect of artificial breathing on the action of the heart*, &c. are inaccurate; for, by the opening of the breast, the whole actions in the thorax must be *completely deranged.*" *Dissections*, p. 50.—Yet it is to experiments where *artificial breathing* is kept up in animals, that Mr. Hastings refers us for a proof of his doctrine of *perpetual motion* in the blood at the roots of the cavæ!!

which are of a violet colour; on account of their thinness, *when distended with blood*, are *pale and colourless when contracted.*"

Lastly, the editors of the Cyclopædia quote the authority of Bichât for a reflux of blood into the veins during each auricular contraction. "This *reflux*," says he, "of the black blood takes place, in a slight degree, in the *natural actions* of the parts. As the openings of the veins are free, the contraction of the auricle must *repel* the contained fluid to a certain extent." John Hunter distinctly saw this *reflux* in a dog. Vide *C. Bell's Dissect.* p. 50.

I should think that the evidences of these celebrated and candid experimentalists are quite conclusive in rebutting the monstrous hypothesis, *that the auricles receive twice as much blood from the veins during contraction as during dilatation*, a circumstance that must inevitably take place, *if* the stream be uniform into them in both operations, the *former* requiring double the time that the *latter* does.

XI.—And now, having proved that the venous system both receives and delivers the blood *interruptedly*, or, to use Bichât's expression, "by successive jerks;" it only remains to say a few words on the motion of the venous blood in the intermediate parts. If I have proved the former positions, it is an *onus probandi* on my opponent to shew why the same kind of motion should not obtain throughout the system, seeing that the blood is an incompressible fluid, and that there is no alternate dilatation and contraction in the veins any more than in the arteries. Dr. Parry distinctly states that a wave of blood may not give the sensation of pulse to the finger, though it may be sensible to the eye. "Thus in various instances of the microscopical observations of Haller and Spallanzani, the predominance of the velocity of blood [in the veins] from each systole of the ventricle was very visible; and in a much more palpable instance, I have *often* seen the blood flow from the cephalic vein of a human being, *with jets almost as from an artery:* and yet, notwithstanding the turgid state of that vein, not the smallest pulse could, on the nicest examination, be discovered in it."—*Nature and Cause of the Arterial Pulse*, p. 116*.

On this subject, I may have been precipitate in my conclusions, since, as Bichât says—"The motion of the blood in the veins requires many researches for its elucidation. The subject is involved in an obscurity through which we can scarcely discern a few rays of light." On all other points of this discussion, I appeal to the candid reader as umpire between Mr. Hastings and myself.

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* "I think," says Mr. Hunter, "I have seen the difference of projection [in the veins] so great, that it hardly could arise from that cause alone;" [lateral dilatation of the accompanying arteries].

Mr. Hastings has reviewed my paper with a *cavalier* air, which by this time he may possibly have regretted, since it is dangerous to be jocular till we are certain that we are right. I have reason to *know*, however, that he is a young man of superior merit and ability; and I have reason to *believe*, that when his mental optics have recovered from the glare of *scholastic* illumination, and he has learnt to think for himself, he will produce still better papers than that on which I have here commented.

III.

A Case of Rupture of the Uterus in the Sixth Month of Pregnancy. By Thomas Ilott, of Bromley, Kent, Member of the Royal College of Surgeons, in London.

About noon on Sunday, Feb. 16, I was desired to visit Mrs. Hill, but being then absent from home, I did not arrive at Green St. Green, where she lived, till near two o'clock P.M. I found her in bed, vomiting up a considerable quantity of ropy mucus: after each effort to vomit she appeared rather faint; but her pulse was good, and there was no other symptom of disorder.

She supposed that she was in the sixth month of her pregnancy, and had been as well as she usually was when in that state. That about four o'clock in the morning she was awoke by a violent pain, as she said, in her bowels, describing it to have been about the umbilicus. This pain, although violent, yet was of short duration, but was succeeded by vomiting, which had returned at intervals till the time I saw her; but no pain accompanied it.

I left her in about half an hour, with an injunction to the nurse, that if she found any alteration, to let me know, as I thought it probable premature labour might come on. No pain, however, after the first attack, recurred; but she gradually sunk, and died about ten o'clock the same evening.

The manner of her death made me very anxious to examine the body; but as her friends lived at a distance, some days elapsed before their consent could be obtained.

EXAMINATIO CADAVERIS.

The cavity of the abdomen was filled with blood, which had insinuated itself in large quantities among the intestines. On turning back the abdominal muscles, the fœtus enveloped in its membranes, which were perfect, with the placenta attached, were found lying in the cavity of the abdomen; there was a rupture of the coats of the uterus, at the fundus, through which the fœtus, &c. had escaped. Probably this event took place early in the morning, at the moment when she felt the pain in the abdomen.

Mrs. Hill was twenty-six years of age, had been pregnant twice before. I attended her in one of her labours; but nothing unusual then occurred.

IV.

Observations on Premature Delivery. By Ωδινοβοηθος.

In the *Medical Repository*, (Vol. iii. p. 288,) some "*Observations on the Cæsarean Section and premature Delivery*" were inserted, signed Ωδινοβοηθος; one chief object of which was to shew the absolute necessity of having the principles, upon which the practice of inducing premature labour was adopted, clearly defined and understood; because it was probable, that a legal investigation of this practice would, at some time, take place, and practitioners of midwifery might be put into an extremely aukward predicament on such an occasion, by the malice of the designing or the prejudices of the ignorant, unless they could very satisfactorily explain their motives and conduct.

I am afraid that I went a *round-about* way to prove my position, otherwise I cannot account for the *severe*, and as I presume, *undeserved* strictures on my paper, in a subsequent number, by a Surgeon, who evidently mistook the drift of my arguments.

This gentleman is highly indignant that I should have made the slightest allusion to the *lex scripta* upon this subject, or should even have hinted, that any thing like *criminality* could attach to any member of the honorable profession, to which we both belong, and in which he believes that neither *knaves* nor *fools* exist. I envy him that happy condition of mind which can lead to such a belief, and will not attempt to shake his credulity; the intention of the present paper is solely to state, that what I ventured to prognosticate has really occurred, a case of this nature having been investigated before a Coroner on the 30th of October last*.

The physician who had attended the case, gave a most satisfactory account of his conduct, and his character remained unimpeached; the verdict of the Jury freeing him from all imputation of blame.

What would have been the event had the necessity of the operation *not* been proved? What, if the operator had been either *knave* or *fool* enough to undertake an operation, the principles and justification of which he did not understand?

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* *See the British Press,* Newspaper, October 31.

V.

A Case of Spasmodic Stricture of the Rectum. By Powell Blackett, R.N. Member of the Royal College of Surgeons in London.

In June 1815, C. B., an officer in the Navy, ætat. 29, consulted me for symptoms which he considered as arising from sitting a long time in a boat, during wet weather, in the beginning of 1814.

He said, that ever since that circumstance he had been troubled with occasional and very obstinate costiveness, which it was not in the power of internal medicines or enemata to remove; but if he sat over the steam of hot water for an hour or more, an evacuation of fæces was produced, which often had a flattened form. Prior to these attacks of costiveness, he had suffered much from violent spasmodic pains in the rectum; and as these pains subsided, a slimy mucus oozed from the anus and moistened the surrounding parts. During the pains he was also annoyed with an insupportable tenesmus, occasioning a discharge of blood mixed with slime, with constant uneasiness down the thighs and the small of the back, accompanied with nausea, headache, and a sense of suffocation in the throat. He had been previously under the care of several medical gentlemen, by whose directions he had been bled; and treated with mercury so as to excite slight salivation: bougies had been introduced, which occasionally passed very easy, and at other times even the smallest would not pass; he had even retained them within the rectum for weeks.

In the state above mentioned I found him in August 1815. I ordered twelve leeches to be applied round the verge of the anus, and when they fell off, the patient was directed to be put into a warm hip-bath, in order that the bleeding from the orifices might be encouraged. These means produced, in the course of half an hour, an evacuation of a vast quantity of fæces, somewhat flattened in figure. The bath was continued thrice a day; and five grains of the blue pill were taken every other night. In three days he was entirely relieved; but I told him still to continue the bath and the pills.

In November he again laboured under a similar train of symptoms; when the same remedies were had recourse to, and with the same effect. He said he was well; but I advised him to apply eight more leeches to the anus: to continue the warm hip-bath every other day for a fortnight, and his pills for six weeks longer.

In February 1816, he wrote me from Paris that he was perfectly well, and had not had any more attacks since I last saw him.

VI.

Some Observations on a Passage in the "Annals of Medicine and Surgery." By A. P. Wilson Philip, M.D. F.R.S.E. &c. Worcester.

A few days ago I saw for the first time the fourth Number of the *Annals of Medicine and Surgery*, in which an account is given of a Paper of mine on a species of Pulmonary Consumption, which was published in the last volume of the *Medico-Chirurgical Transactions.*

I cannot help feeling the obliging terms in which this Paper is mentioned. I was therefore the more surprised at the following observations, which it is impossible for me to allow to pass unnoticed. "The treatment recommended is that with which all are familiar, who are acquainted with Mr. Abernethy's views. Dr. P. maintains that he has entertained and practised upon the same views these twelve years. He is very unfortunate in having allowed Mr. Abernethy to obtain all the credit in this particular, as he allowed Bichât with respect to the characteristics of the animal and organic life." *(Edin. Med. and Surg. Journal,* 1809.)

On the nature of such an insinuation it is unnecessary to make any remark. I cannot suppose that its author had any intention to misrepresent; yet it will be admitted that that part of it which relates to Mr. Abernethy contains a misrepresentation, when it is known, that I do not simply make the above assertion, but give such proofs of its accuracy as cannot be questioned. In the second page of my Paper it is observed, "I had occasion *twelve years ago* to mention this species of consumption and the plan of treatment adapted to it in the second edition of my Treatise on Febrile Diseases:" and in speaking of Mr. Abernethy's practice I observe, "In the case of Dyspeptic Phthisis which Mr. Abernethy relates, the reader will find the principle of the treatment which I have employed in phthisis *for more than twelve years, as many medical men of this neighbourhood have witnessed.*"

The passages I alluded to in the second edition of my Treatise on Febrile Diseases, published in 1804, are the following: "One cause of tubercles, which appears to me to operate very frequently, has been but little noticed by writers—Raulin and some others mention it—obstruction of the abdominal viscera, particularly an enlarged and indurated state of the liver, cases of which I have known prove fatal by inducing phthisis without the practitioner having been aware of the cause which supported the disease. The formation of pus seems in most of these cases at an early period to be unattended with ulceration;

sometimes perhaps even with tubercles; for I have seen many supposed to labour under phthisis speedily relieved from the most urgent symptoms by the means which remove the enlargement and induration of the liver. If the case is neglected, however, tubercles and ulceration succeed, and then it is too late to afford permanent relief." p. 518, 519.—" Mercury indeed has been chiefly employed in phthisis where the concurrence of syphilis rendered it necessary. And its effects in most of those cases have been such as to dissuade from the use of it, where phthisis is the only disease. No means employed in phthisis better illustrate a remark just made on the impropriety of an indiscriminate use of any medicine in this disease. In the generality of cases the only effect of mercury would probably be that of hastening the fatal termination. Yet in one variety, I have in repeated trials found it the best remedy, and have seen the patient saved by it almost in the last stage, after the purulent expectoration and hectic fever were completely formed: I allude to the cases occasioned by an enlarged and indurated state of the abdominal viscera. I have already had occasion to observe that this cause of phthisis has been very generally overlooked, which is probably the reason that, as far as I recollect, no author has pointed out this variety of the disease as that in which mercury is useful." p. 561, 562.

It appears from several expressions in the foregoing quotations, that I had employed mercury in phthisis for some time before their publication. It is not less than sixteen years since I first employed mercury in the above species of phthisis. Mr. Abernethy's Observations on the Constitutional Origin of Local Diseases were first published in 1806; so that as far as relates to phthisis, I had for some time pursued the plan of practice in question, and had laid it before the public two years before the publication of Mr. Abernethy's work.

With respect to the remaining part of the accusation and the reference to the *Edin. Med. and Surg. Journal*, they relate to a review in that Journal of an Essay on the Nature of Fever, which I published ten years ago. The author of this Review, although it appeared in one of the most respectable and instructive Journals which this country has produced, pretends to give his opinion of subjects which he evidently does not understand, and chooses to speak of works with which he is unacquainted. The performance is altogether of such a nature, that I never thought it necessary to vindicate myself from the charge it brings against me, which it was always in my power to do, as will appear from what I am now going to say.

Were it necessary, I could, from a correspondence which I had with a gentleman well known to the medical world in 1809, prove, that I was not at that time acquainted with any of

Bichât's works. Had I then known the similarity of Bichât's opinions and those I had been led to form, I should have been too much flattered by such a coincidence not to have mentioned it; but I should not have felt myself called upon to make any acknowledgment to Bichât. My opinion respecting the characteristics of the animal and organic life, or as I termed them, following the common Nomenclature, the animal and the vital and natural functions, is fully expressed in the first edition of the first volume of the Treatise from which I have just troubled you with some extracts, which was published in 1799, the same year in which Bichât published, in Paris, his *Recherches Physiologiques sur la Vie et la Mort.*—Having been prevented by the state of the continent from visiting it, I had not at that time even heard of the name of this eminent physiologist, who I believe was then little if at all known in this country. In the 520th and following pages of the above volume, there is the following passage. It is necessary to premise that by the term exhaustion I mean the state in which the body exists during sleep. "That excitement which is followed by exhaustion is always healthy. The debility it occasions affects no parts of the system but those on which the animal functions depend, and in them only occasions debility by diminishing their excitability, in consequence of which they cease for some time to be excited, and the animal functions are suspended, that is, sleep takes place; during which, the excitability of the organs concerned in these functions gradually increasing, they become sufficiently sensible to be again roused to action by the usual stimuli. The same stimuli again in a short time impair their excitability, which is again in like manner restored; hence the constant alternation of vigilance and sleep. During neither of these states are the powers of life at all impaired. The system is in as perfect health in a state of exhaustion as in that of moderate excitement. The powers by which the body is preserved do not partake of this alternation; it is confined to those powers, by which the animal is connected with the external world, by which he perceives and acts.

"The latter set of powers cannot exist independently of the former, but the former may without the latter. We have reason to believe that this is the case in the less perfect animals, which seem to possess no powers but those on which their existence depends; and which may be regarded as the link that connects the more perfect animal with the vegetable world. . . . .

"We have ample proof that even in the most perfect animals the vital and natural functions may be in a state of perfect vigour, where the powers on which the animal functions depend never existed. Human and other fœtuses have been born without the head, in other respects well formed and of the full size. Such a fœtus dies as soon as a ligature is thrown around the umbilical chord, because the blood no longer undergoes that change which is caused by the vicinity of the maternal blood in the placenta, and which is effected, after birth, by respiration; a function, which, depending on the nervous system, cannot be performed by an animal without the brain. Could such a fœtus after birth be made to respire and be supplied with nourishment, we have every reason to believe, from what we know of the animal œconomy, that it would live and increase in size after birth, as it does before it; but it would certainly experience no alteration corresponding to that of vigilance and sleep in the more perfect animal."

I may farther observe, that the coincidence of the opinions of Bichât on this subject, and those I have published, is not by any means such as the Reviewer represents it. In an essential part of the subject, that relating to the passions, they wholly differ; a difference in which I have lately been confirmed by the result of many experiments*.

AUTHENTICATED CASES, OBSERVATIONS, AND DISSECTIONS.

LIII.—*Case of a singular Affection of the Head.*

On the 10th of November 1816, William Eldy, a lad aged twelve years, of delicate constitution, complained of a severe headache, which had regularly seized him at eleven o'clock P.M. for a week, and disappeared as morning advanced. Decoctum Cinchonæ and liquor Arsenicalis were prescribed. The pain was chiefly confined to the fore part of the head. After about a week the pain ceased, and the medicines were omitted; but he had pains in his bowels, which became constipated, with every symptom similar to cholic. Cathartics and enemata were administered, which produced speedy relief; but the pain returned the next day to his head, and the paroxysms were more frequent and of longer continuance. A slight degree of fever now attended; and as the pulse was full, he was bled in the temporal artery, but without relief. A blister was therefore applied to the paine part, which now occupied the fore and lateral parts of the head, and two grains of pulv.

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* As the above is in refutation of a charge which the author conceives implicates him professionally, we are induced to deviate from our ordinary course of rotation with regard to the insertion of Communications, and give it immediate publication.—Editors.

antimonialis were given every six hours, and a strict antiphlogistic regimen observed. Both during and between the paroxysms, he was in a slight degree delirious, talked incoherently, and took one person for another.

Two days after this, he was bled from the arm to the amount of four ounces; but the blood did not exhibit the least mark of inflammation: the fever, however, from this time abated. The pain in his head also began gradually to subside, and he appeared much better; indeed so much so, that he was thought convalescent. In a few days, however, he relapsed, and became insensible, and about the third day died, three weeks from the commencement of his illness. This boy had been greatly frightened just before he was taken ill, by a man, who, attracted by his watch, ran after him, on his returning from school.

The Reporter regrets that the body was not examined after death, as it perhaps might have elucidated a case which to him appears very obscure; and with the hope of seeing some observations upon it from those more competent, he is induced to solicit a place for it in the *Repository.*

LIV.—*Case of depraved Vision.*

Henry Harvey, aged 40, a carpenter, in January last complained of a violent pain across his forehead, great weakness in his left thigh, and that he saw every thing double. He stated that he had been suddenly seized with these symptoms about six weeks before, when at his work. He had been twice bled; blisters had been applied to the nape of the neck and to his temples; but this was attended with advantage only to the giddiness and the pain in his head, as his eye-sight remained the same. His complaints appeared to be much aggravated a few days previous to his placing himself under the Reporter's care, in consequence of not being able to obtain a continuance of his medicines.

Sixteen ounces of blood were abstracted by cupping; a blister was applied to the neck, and a solution of sulphate of magnesia in camphorated mixture was ordered to be taken every fourth hour. In a few days he was much better, but his sight was still in such a state, that he dared not trust himself in the street unless one of his eyes was closed by a shade, without which he was running against the persons he met, and taking wrong directions in his road. In a week he was cupped again, but still without benefit to his sight: a seton was next placed in the neck, and his purgative medicine increased in strength, as his bowels appeared to be very torpid. In about a month, blisters were applied to the temples and dressed with the savine cerate, and a fumigation composed of tinct. opii. ℥ iv. æther. ʒ ii. applied by means of a glass immersed in hot water, three times a day; from this period he began gradually to amend. Occasionally the blistered surfaces were rubbed at night with the ung. antim. tart. which exacted a very violent irritation over the circumjacent parts, from which he always derived great benefit. He was twice cupped afterwards, on account of the return of the giddiness, and his bowels were kept lax with the mag. sulph. in infus. rosæ. and the lin. ammon. fort was applied to his thigh. He is now quite well and returned to his work. It may be necessary to state that he was reported to have been a hard drinker. The Reporter has great pleasure in giving the history of this case, as several gentlemen had pronounced it incurable.

PART II.

ANALYTICAL REVIEW.

I.

An Explanation of the Process of the "Spontaneous Evolution of the Fœtus," with some Remarks, intended to induce an Inquiry whether the usual Mode of Delivery be the more eligible in Arm Presentations. By JOHN C. DOUGLAS, M. D. Licentiate of the College of Physicians, and Assistant of the Lying-in-Hospital, Dublin, 8vo. pp. 21. Dublin, 1811.

An Essay upon the Spontaneous Evolution of the Fœtus. By JOHN KELLY, M. D. 8vo. pp. 60. 1816. Christie, Dublin, and Longman and Co. London.

THE late Dr. Denman, in the year 1772, being called to a poor woman in labour, where the arm presented, observed, that by the force of the pains, the breech of the child was brought down, and eventually expelled without any interference on his part. Not long after, he had another opportunity of remarking a similar phenomenon, and afterwards, on several occasions, observed the same occurrence, to which he gave the name of the Spontaneous Evolution of the Fœtus. Subsequently, the same thing was observed by many other practitioners; and it has been alluded to by most of the modern writers on obstetrics; all of whom seem to consider this occurrence as so rare, that it would be wrong ever to wait for, or depend upon it; although it might influence the mind of the accoucheur to expect it, in a few cases, where, from the strong and rapid contractions of the uterus, he should find it highly hazardous to persist in introducing his hand to turn the child.

Dr. Douglas, the author of the first tract now under review, offers some new and interesting observations upon this curious subject. He thinks, that the explanation which Dr. Denman has given of the phenomenon is erroneous; he details his own opinions of it, drawn, as he assures us, "from bed-side experience;" and finally seems very much disposed to think, that Nature would be generally equal to the expulsion of the fœtus, in cases of arm presentation, were she not interfered with by art.

It is evident, both from the name which Dr. Denman gave to this process, as well as his explanation of the manner in which it happened, that he considered it to be an *actual turning* of the child by the natural efforts of the uterus: Dr. Douglas, however, states, that the process is effected after the following manner:—

> "To prevent any misconception of this grand operation of nature, I will now describe the precise situation, in which the fœtus is to be found, immediately prior to its expulsion:—the entire of it pretty nearly resembles the larger segment of a circle; the head rests on the pubis internally; the clavicle presses against the pubis externally, with the acromion so high up as to reach the mons veneris; the arm and shoulder are entirely protruded, with one side of the thorax not only appearing at the os externum, but partly without it: the lower part of the same side of the trunk presses on the perinæum, with the breech either in the hollow of the sacrum, or at the brim of the pelvis ready to descend into it: and by a few further efforts of the uterus, the remainder of the body, with the lower extremities, is expelled.
>
> "But to be still more minutely explanatory in this ultimate stage of the process, I have to state, that the breech is not expelled exactly sideways, as the upper part of the trunk had previously been; for, during the presence of that pain by which the evolution is completed, there is a twist made about the centre of the curve at the lumbar vertebræ; when both buttocks, instead of the side of one of them, are thrown against the perinæum, distending it very much; and immediately after, the breech issues forth; the upper and back part of it appearing first, as if the back of the child had originally formed the convex, and its belly the concave side of the curve.
>
> "If this description be correct, it must be evident, that the breech is not the first part of the body which appears; because, that side of the thorax, which formed part of the convex edge of the bow, is previously protruded: the breech, however, is expelled just before that side of the trunk, which was concerned in forming the concave edge of the bow.

"We will now suppose the evolution to be completed, or the entire of the fœtus to be without the os externum, except the head and one arm; but with respect to the arm, which originally presented, I am confident that not one line either of it, or of any other part of the child, which had once descended, ever withdrew; and it would not appear unreasonable to infer from Dr. Denman's treatise, that although he must have frequently been in the room when a spontaneous evolution occurred, yet that he never happened to be paying attention at the moment of its occurrence; and he having afterwards found the child in the situation just mentioned, he concluded that it had been expelled by the breech, as 'in an original presentation of that part:'—or if it be admitted, that he might have been at the bedside, at this critical moment, I would suppose that his attention had been too much engaged, in supporting the excessively distended perinæum, to have observed what was going on a little farther forward; and as he did not perceive what became of the shoulder, he concluded that it must have receded into the uterus, as he was originally impressed with the idea that a child could not be expelled 'in a doubled state.'"—p. 9.

The account here given of this natural process is more plausible than that of Dr. Denman; and many of the cases published in confirmation of the theory which he had formed, might be produced in support of Dr. Douglas's opinion, that there is in effect an expulsion of the child in a doubled state, rather than an evolution: yet the evidence in favour of a real evolution is in some of the cases so strong, as not to leave a doubt that an actual *turning* of the child was spontaneously effected. Thus in Dr. Denman's third case* we read, "I was sent for about one o'clock in the morning, and, on examination, found the arm pushed through the external parts, the shoulder pressing firmly upon the *perinæum*. The exertions of the mother were wonderfully strong. I sat down while she had two pains; by the latter of which, the child was doubled, and the breech expelled. I extracted the *shoulders* and head, and left the child in the bed." How could Dr. Denman extract the *shoulders*, unless the arm which had been protruded beyond the os externum was retracted?

So in the case recorded by Mr. Simmons†, we are told that "the child was *completely turned* by the mere action of the uterus, and was expelled, as if *the breech had originally presented*."

Again, Mr. Rowland‡ says, "after twelve hours very hard labour, I was sensible during the presence of a pain, that *the arm was beginning to recede*, and by the power of the next pain *the child was turned* and expelled footling."

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* *Aphorisms*, 4th edit. p. 63. † *Medical Facts and Observations*, vol. i. ‡ *Medical and Physical Journal*, vol. iii.

We must confess, that we think these three cases alone sufficient to decide the question respecting the occasional occurrence of the Spontaneous Evolution; yet we make no doubt that the process described by Dr. Douglas is, particularly with small-sized children, the more common method by which Nature relieves herself from this difficulty.

The part of Dr. Douglas's pamphlet, which seems to have been less considerately written than the rest, is that in which he inclines to recommend leaving cases of arm-presentation to Nature. He says—

> "It is not my wish that any person should infer from what I have said, that I had *yet* ventured altogether to decry the custom of turning in the usual manner; I have only intended to reprobate the practice in cases attended with the circumstances lately mentioned, or in those which would rank under the third distinction of the second order of preternatural labours in Dr. Denman's arrangement; as I know that in many cases of arm-presentations, for instance, in those which might be comprised within the limits of his first distinction, the operation of turning may be performed by an intelligent practitioner; frequently, not only without injury to the child, but with comparatively little pain, and still less danger to the mother: but, notwithstanding all this, I am not afraid to advance an opinion, that the time will come, and perhaps it is not very distant, when the term, *turning* in arm-presentations, will be known only by name, and will be reckoned among the rude and uncouth modes, which have been invented and resorted to, for the delivery of pregnant women.
>
> "I am well aware that many practitioners, who have been long in the habit of turning children, will be disposed to ridicule this seemingly rash conjecture; but before they would indulge too much in their ridicule, I would beg leave to remind them, that there was a period in the history of midwifery, when the accoucheur would have been laughed at, who would have proposed to trust, for two or three days, to the resources of Nature, for the accomplishment of a delivery, without having recourse to his steel extractors:—that there was a period, when, if a hand of an infant came down with the head, turning would have been deemed absolutely necessary:—that there was a period, when if the breech presented, it would have been judged indispensable, that the accoucheur should push his arm into the uterus, for the purpose of bringing down the feet:—that there was a period still less distant, when that man would have been thought to be insane, who would have ventured to allow a woman to be harassed with puerperal convulsions, for twenty or thirty hours, rather than interfere *mechanically*, with the natural progress of her labour.
>
> "But as these false notions of the insufficiency of nature, and of the excellence of our art, have been gradually superseded by a more enlightened philosophy, it may be hoped, that the usually rude and unnatural operation of turning in arm-presentations, will, in process of time, likewise give place, to a more easy—a more safe—and a more rational mode of delivery."—p. 18.

Now, though it is readily acknowledged that the Science of Midwifery has been beyond calculation improved, since parturition has been permitted to become a more natural and uninterrupted process than it was formerly; yet it may well be doubted, whether it would be wise to let Nature supersede art in arm-presentations, and in other irregular and dangerous cases, now by universal consent consigned to the manual skill of the artist in midwifery. Nature, mighty and efficacious though she be, is confessedly unequal to overcome many of the difficulties which parturition presents. Very many years are not elapsed, since it was the doctrine of a very eminent teacher of midwifery, that Nature was all-sufficient to effect the expulsion of the placenta; and he never omitted in his lectures to say, that it was *damnable* practice to introduce the hand into the uterus, for the purpose of separating the placenta. This doctrine, it is true, has sometimes prevented unnecessary, and therefore improper interference with the placenta; but it has, likewise, on some occasions, hindered the operator from having recourse to the only method by which the life of the patient could have been preserved. There are cases and times, in which we are imperiously called upon to act; and he, who sits by to observe the weak and abortive struggles of Nature, when he can relieve his patient by art, cannot be accounted a good or a prudent physician or surgeon.

Dr. Kelly's publication is longer, and embraces a more extensive field of inquiry than that of Dr. Douglas; for he not only attempts to shew that both Dr. Denman and Dr. Douglas are wrong in the explanations they have respectively given of the manner in which the spontaneous evolution is effected, but he inquires into the causes of preternatural presentations, and attempts "to establish some certain rules for the guidance of the accoucheur, in the management of cross-births."

We shall give, in the first place, Dr. Kelly's explanation of the Spontaneous Evolution, and then offer a few comments on some of the remaining subjects which he has discussed:—

> "I take it for granted, that the reader is already acquainted with the opinions of Doctors Denman and Douglas, as set forth in their respective works; and, therefore, I shall make only such extracts from them, as may suit my present purpose. Doctor Denman maintains that there is an 'evolution' of the child, the superior extremity *receding* into the *uterus*. Doctor Douglas argues against the possibility of such *recession*, and insists that the delivery is accomplished by the mere expulsive faculty of the uterus, as in ordinary labours.
>
> "The 'Spontaneous Evolution of the Fœtus' is a process, which, I am persuaded, may occasionally occur, though not exactly as stated by Doctor Denman: for I agree with Doctor Douglas, that

no portion of the fœtus can ever recede into the *contracting uterus.* The former says (speaking of the inferior extremities) 'they are forced gradually lower, making room, *as they are pressed down,* for the reception of some other part into the cavity of the uterus which they have evacuated.'—Here lies the great, and, perhaps, only error in Denman's explanation; and though Doctor Douglas has discovered the mistake, he does not appear to me to have removed the difficulty. It is not *as they* (the inferior extremities) *are pressed down,* or while the *uterus* is in *contraction,* that any portion of the superior extremity of the child recedes into it,—but *after they have been pressed down,* and when the *uterus* next ceases to act.

" The inferior extremities are forced gradually lower, until they become, as it were, fixed upon a plane, with the body of the child: its position in the *uterus,* from being perpendicular, becomes horizontal, the head resting, I will suppose, on the spine of the *pubis* and the inferior extremities at the *sacrum.* It is, when brought into this situation by the repeated action of the *uterus,* and not sooner, that the *fœtus* can turn upon its own axis; nor can it do so then, until the action of the *uterus* has ceased: so long as this continues, it is physically impossible the evolution can occur; but the child being thus placed, by the pains, in a position favourable to its evolution, the superior extremity goes up the moment the *uterus* ceases to press it down; or, in other words, at the termination of a pain.

" The occurrence in this way is as clearly demonstrable to my mind, as any proposition in Euclid; although, for reasons hereafter to be mentioned, the evolution may not occur once in an hundred cases. When it does, it is accomplished not by any *peculiar* action of the uterus, as significantly remarked by Doctor Douglas, but by an action *common* to it and every other muscular part; and when the great diameter of the uterine cavity, at the full period of utero-gestation, is considered, there can be little difficulty in comprehending how the *fœtus* lies thus transversely within it."—p. 10.

Dr. Kelly enumerates many causes which have been supposed to produce preternatural presentations; but he seems to consider distortion of the pelvis as the predominant cause. He says,

" We come now to apply, to practice, the preceding observations upon the spontaneous evolution, and upon the causes of præternatural labour. How far these may be judicious or correct, it is not for me to determine; but until they are proved otherwise, I feel myself at liberty to argue from them; and I would establish it as a *general* principle, which every accoucheur should carry with him into practice, that, when the arm of the child presents, the woman is deformed. No possible injury can arise from the position, when it is *not* well founded, and considerable advantage may result from it when it *is.*"—p. 45.

We cannot help thinking that Dr. K. has taken up the idea of distortion being a very frequent cause of preternatural labour upon very insufficient grounds. We have now before us a list of thirty-three cases[*] of arm-presentations occurring in our own practice, but in only two of these instances was the pelvis positively deformed, though in three others it was what is commonly called narrow; in the remaining twenty-eight cases the pelvis was uniformly well shaped and of its proper size.

Dr. Kelly remarks, that in preternatural presentations, the quantity of *liquor amnii* is generally excessive: we have noticed this occurrence more than once; but have fancied, that it was rather an apparent than a real excess of the fluid, arising from its free and rapid discharge from the uterus: when the membranes are ruptured and the head presents, its figure and size occasion it to block up the cervix uteri, and thus much of the liquor amnii is prevented from passing off; but in a transverse position of the infant, there being no obstruction to the free evacuation of the fluid, the whole or nearly the whole is discharged at once, and the quantity seems excessive.

There are throughout Dr. Kelly's book many very just and useful practical remarks; the following have pleased us much from the good sense and intelligence which have dictated them:—

> "In all these cases, I am of opinion that it is our duty, and should be our principal aim, to effect, if possible, the turning of the child:—to this object our most strenuous efforts should be steadily and perseveringly directed. We should never set about the operation under the impression that, if we fail, we still have a refuge in the resources of nature: because such an idea, by relaxing the zeal and assiduity, which are so often necessary to success in turning, would induce us to yield too hastily to the first impediments thrown in our way. On the contrary, we should proceed under the conviction that a failure will involve the life of the child and greatly endanger that of the mother.

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[*] In twenty-five of these thirty-three cases the child was turned. Six of the children were dead before the operation was undertaken; nine died in the birth; ten were born alive. In five instances the children, being premature and some time dead, passed in a doubled form, very much in the way described by Dr. Douglas. In one case of very deformed pelvis, the arm and funis being in the world, and the forehead resting upon the symphysis pubis within reach of the perforator, this instrument was employed, and the child extracted by the hook. In another case, the feet having been incautiously brought down, the head, arm, and feet were so firmly wedged in the pelvis, as to render extraction impossible; here the perforator was likewise used to open the head, with decided advantage. In one case the arm was pushed back, but it was found impracticable to reach the feet; the head, however, was brought into the pelvis, and thus the child was expelled by the pains alone, and lived.

"If the accoucheur be called in soon after the discharge of the waters, and before the labour has made much progress, he should instantly turn the child, and so put an end to the long train of consequences, perplexing to himself, hazardous to the mother, and destructive to her child, which will almost inevitably follow any other mode of proceeding.

"Or if the waters have been long discharged, and if the shoulder of the child be resting at the superior aperture of the *pelvis*, or has entered that cavity but a little way, he should lose no time in endeavouring to lay hold of a foot and turning. This must, of course, be accomplished by raising the shoulder, in the absence of a pain, if it be wedged in the pelvis; or by insinuating a hand between the uterus and child, if it be not. The success of this operation depends more upon dexterity than force, but when the latter becomes necessary it may be safely exerted to a considerable extent, if properly applied.

"When the labour has advanced so far that the shoulder of the child appears near the *os externum*, it will, even then, be our duty to *endeavour* to push back the shoulder, and, I believe, it will frequently be in our power to do so*: but if we fail in this, and if the shoulder, urged by the pains, *arrives at the perinæum*, it will then be proper to try, for an hour or so, the effect of the pains. Should the evolution not succeed in that time, we will in my opinion and for the reasons already assigned, be fully justified in extracting the child by opening its body; unless some particular circumstance should arise, during the delay, to induce us to believe that the evolution is actually going to take place."—p. 45.

Upon the whole we have perused these two works with great satisfaction and interest, and think them both very deserving of the attention of practitioners of midwifery; we applaud in Dr. Douglas the spirit which makes him anxious to trust to Nature as much as possible in every case of parturition; but we perfectly agree with Dr. Kelly in the opinion that our deference even to the powers of Nature should not be unlimited: "for Nature will disappoint the expectations of her most ardent votaries, when those expectations are carried, in spite of the evidence of experience, beyond the bounds of reason and propriety."

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* "Such an occasion has never occurred to me; but I am informed by a physician of great experience that it is an invariable rule with him to raise the shoulder, if possible, in the most advanced stage of arm-presentation,—that he has often done so with entire success; and that in no case, whether of failure or success, did the mother sustain any injury from the attempt."

II.

Medico-Chirurgical Transactions, vol. vii. Part ii. 8vo. pp. 300. London, 1816. Longman & Co.

(*Continued from* p. 314.)

The third of the surgical papers, contained in this part of these Transactions, is the *Case of a Gun-shot Wound and Fracture of the Tibia, in which a Seton was successfully employed in promoting a Cure*; by John Boggie, Esq. The fracture in this case was produced by a fall, which happened to the patient whilst he was attempting to walk with crutches, during the progress of his cure from a gun-shot wound. Both bones were fractured "at the site of the wound, and the consequence was violent inflammation, and high general fever;" but these being readily subdued, the cure went on progressively until the month after the accident, when a complete stop took place in "the process of consolidation in the bone and to the healing of the soft parts." On probing the wound a canal was found in the substance of the tibia, through which the seton was introduced, and brought out behind the leg "at the cicatrix of the exterior wound."

"A most favorable change took place almost immediately. Many small portions of bone were brought away by the seton, which was drawn through every day; the discharge soon lessened in quantity, and became again of good consistence: the swelling of the limb also subsided entirely. As the canal in the bone filled up, the seton was gradually lessened, till at last, about five weeks from the time of its introduction, it was altogether withdrawn. Both wounds healed up soon after. The limb remained somewhat shortened, but the union of the bone was at this time completed."—p. 340.

Somewhat connected with the subject of Mr. Boggie's paper is that of the communication we shall next notice, *On the Treatment of Sinuous Ulcers*; by Henry Dewar, M.D. On this subject, and indeed on many connected with surgery, modern practitioners have most unaccountably neglected the practice of the older writers; and pupils are, now, too frequently impressed with the opinion that no useful practical information is to be obtained from consulting any author prior to the period of John Hunter, or, at the farthest, that of the fathers of English surgery. This, however, is an error that cannot be sufficiently exposed.

Galen in his treatise *Τα Θεραπευτικα*, in a passage containing directions for the treatment of sinuous ulcers, part of which is transcribed by the author of the paper before us, says, "Let the turns of the linen bandages constrict (though without pain) the further end of the sinus, and be made gradually looser towards the orifice:" and again, "it is necessary that the orifice should not be at all compressed, but kept so free that the whole matter of the sinus may be evacuated by it." It appears that, previously to his having read the opinions of Galen, the same principle of treatment was adopted by Dr. Dewar; and the success of the practice founded upon it has induced him to recommend it to the profession. We will transcribe the passage containing his directions for the application of a bandage, in the case of sinuous ulcer in the thigh.

"A few turns of the roller should first be made *with considerable pressure* over one extremity of the femur, and then over the other, so as to reach with all possible certainty the extremities of the large sinus, into which the whole cellular interstices of the parts have been converted. It is safer to begin beyond the sinus than to run any risk of falling short of its extremities; and, in some cases, it might be proper to increase our security by means of partial compresses extending somewhat higher than it is possible to apply the turns of the roller itself. It is now fixed in its situation with a pin. A considerable pressure is easily borne, as no high inflammation is present, and the evacuation of the pus, by reducing the circumference of the limb, soon relieves the veins from any turgescence arising from the pressure to which they may have been at first subjected. In country practice, when a surgeon has been newly called to an old case of this kind, and a considerable interval may elapse before he is to repeat his visit, the swelling of the lower part of the limb may be obviated by bandaging it upwards from the toes. After fixing the bandage on the thigh at the degree of pressure which I have described, the surgeon may, if he chooses, make two or three lighter turns on the tumid part to assist the depletion of it, taking care that these press so lightly as in no degree to counteract the operation of the first turns made at the extremities of the sinus. The change which this application produces is almost immediate. Part of the matter with which the integuments had been distended, is irresistibly forced a certain way towards the orifice; and no newly secreted matter is suffered to lodge in that quarter. On the second day, the limb is found somewhat reduced in size, and the bandage may now be applied more extensively. On the third day, it may be so applied as to be kept on for several days without alteration. The same degree of pressure is always to be continued over the extremities of the sinus, and several additional turns are to be made, gradually looser, alternately above and below the orifice, and approaching to it in both directions, but not reaching it. If there are two orifices, one of them, by which the matter can be freely brought away, is to be left uncovered with the bandage, and the other allowed to heal up. There is no necessity for selecting the most dependent one for that purpose, as any advantage derived from the tendency given to the course of the matter by its own weight, is not worthy of attention under a treatment implying means of evacuation otherwise so powerful. The anterior orifice will often be found the most eligible, as it is examined and dressed with greatest convenience. During the alternate application of the bandage to the higher and the lower part of the thigh, it is frequently and variously *crossed* on the side of the limb opposite to the open orifice, and thus a propulsion of the pus is commanded in every direction to that outlet. A considerable part of the surface surrounding it is left uncovered, and the bandage is finally fixed. Over the orifice such light dressings are subsequently applied as will make no resistance to the discharge of the purulent matter. The firm propelling bandage is kept on without alteration, exeept when it becomes loose in consequence of a reduction in the size of the limb; although cleanliness requires the dressing immediately over the orifice to be changed daily or oftener. Thus all unnecessary trouble is prevented, an object which is sometimes of importance in securing the more perfect performance of those offices which are really necessary."—p. 487.

Now, without in any degree wishing to detract from the merit of Dr. Dewar, and whilst condemning modern practitioners for too much despising the ancients, and our writers on Elementary Surgery for neglecting to quote their practice in this particular, we must observe, that the principles of bandaging recommended by our author, are by no means confined to himself at the present day; surgeons who think for themselves having long practised nearly the very method he has described, to empty sinuses, and promote the adhesion of their sides, when these are situated on parts to which compression can be advantageously applied. To those, however, who, instead of reposing on their own judgment, merely follow the precepts they are taught, we strongly recommend the perusal of Dr. Dewar's instructive communication.

The paper to which we have next to direct the attention of our readers, is undoubtedly one of the most important in the volume. It is intitled *An account of a new Method of Operating for the Cure of External Aneurism, with some Observations and Experiments, illustrative of the Effects of the different Methods of procuring the Obliteration of Arteries;* by Philip Crampton, Esq. F.R.S. &c.

After slightly mentioning the effects of the labours of Petit, Pouteau, and Kirkland, Mr. Crampton states the practical conclusion drawn by Dr. Jones from the series of experiments made by him on the arteries of quadrupeds; and offers the following considerations as sufficient reasons for the regarding the analogy which has been supposed to exist between these and those of man "as more apparent than real."

"1. It may be stated in general, that the adhesive process is more quickly and certainly executed in all the parts of quadrupeds, (with the exception of the skin) than in man.

"2. In quadrupeds wounds of the arteries in particular are so prone to unite, that no experimentalist has hitherto succeeded in producing an aneurism in this class of animals; the wounds of the arteries which have been inflicted with this view, healing like wounds made in any other part of the body*.

"3. The arteries of quadrupeds are not liable to that peculiar change of structure from disease which predisposes to aneurism, and which among other causes renders the operation of the ligature so uncertain in its effect upon the arteries of man."—p. 343.

Reflecting, therefore, on these differences between the arteries of quadrupeds and man, and as aneurism is a disease peculiar to man, he justly conceives we ought not hastily to conclude, that, because the obliteration of an artery follows the division of its internal and middle coats by a ligature, in the lower animals, the same effects are the result of tying the arteries of man; and the object of Mr. Crampton in this paper is, "to shew, from a variety of observations and experiments upon the arteries of man as well as animals,—

"1. That the obliteration of an artery can very certainly be effected, independently of the rupture or division of any of its coats.

"2. That this operation of the ligature, so far from being essential to the process, not unfrequently defeats it."—p. 344.

The obliteration of arteries by pressure, and the effusion of lymph from their internal coats, and the cure of aneurism by compression, independent of any rupture of the internal coat of the vessel, are urged as facts confirming the first of the positions we have just quoted; and two experiments on sheep, selected from many others made upon the arteries of horses and sheep, are detailed, to prove, that even in quadrupeds the obliteration of an artery can be as certainly effected without any perceptible injury being inflicted on its internal coat, as when that membrane is completely divided by the ligature.

Mr. Crampton next proceeds to shew that "the division of the internal and middle coats" of an artery in man, "not unfrequently prevents the obliteration of the artery, "giving rise to secondary hæmorrhage, and even to aneurism;" in support of which he refers to a case described by Guattano, and one by Mr. Warner, in which "the brachial artery gave way three times under the ligature, and at each time formed a distinct aneurism." From these facts he conceives, that it is apparent,

"1. That we are not warranted in concluding 'that the internal and middle coats must be cut quite through all round the artery, in order to procure the adhesion of its sides,' but merely that adhesion may take place under such circumstances.

"2. That *in man*, the rupture of the internal and middle coats by the ligature not unfrequently gives rise to aneurism, and to secondary hæmorrhage,

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[*] Experiments have failed to produce aneurism in dogs, horses, &c. Jones, p. 117.

" 3. That a very moderate degree of irritation applied to the *external* coat of an artery, aided by a sufficient degree of compression to bring its internal surfaces into contact, is sufficient to effect the obliteration of the canal.

" 4. That the permanent obstruction of the canal may be effected by such a process in a period not exceeding twenty-four hours."—p. 351.

In reflecting that the first and most essential step in the spontaneous cure of aneurism is the coagulation of the blood in the sac, in consequence of the current through the ruptured artery being obstructed, Mr. Crampton was led to imagine that, " by a very little well-directed aid from art, this process might be relied on for the cure of every species of external aneurism." When an aneurism is spontaneously cured, he thinks the cure is effected by one of the two following ways:—1. By the diminished action of the general arterial system weakening that of the diseased artery, the " re-action of the sac upon the vessel may be sufficient to obliterate its tube; or the blood may coagulate from its languid current, or so deposit layers of coagula as to convert the aneurism into a solid tumour pressing upon the artery." 2. Inflammation attacking the coverings of the aneurism, may so augment its bulk as greatly to increase its pressure upon the vessel, and thus obliterate its tube. We know that spontaneous cures have been effected by one or other of these causes; and our author refers to some of the more remarkable instances of it on record. When the cure is to be produced by art, the intention is the same, either to diminish the force of the artery, or to increase the re-action of the aneurism; but the latter, which implies the compression of the sac, is now fallen into disuse: hence the object is to point out that mode of effecting the former, which is most likely to prove successful.

The operation by ligature is not unfrequently followed by secondary hæmorrhage; which has occurred even when " there was no reason to suspect a morbid condition" of the coats of the artery. Mr. Crampton attributes this circumstance, in every instance, " to the division of the internal and middle coats" of the artery by the ligature; and hence, although this is the fundamental principle of the operation, according to Dr. Jones's view of the subject, yet it is " precisely that *kind* of injury," observes our author, " which a diseased artery is least able to bear with impunity:" and such being the case, the question arises, can " the obliteration" be effected by other and less hazardous means? Our author conceives it can be done by temporary compression of the artery above the seat of the aneurism, and details two cases in support of his opinion. We extract the detail of the various steps of the operation in the first case, in which the aneurism formed " a large and pulsating tumour under the fascia of the vastus internus muscle, immediately above the inner ham-string."

"The femoral artery was laid bare at the usual place by an incision not exceeding three inches in length, and a tape, one-eighth of an inch in breadth, was passed under it by means of the aneurism needle. The ends of the ligature were passed through the holes in the foot of the 'presse artère,' and then crossed through the hole in its stalk. The artery was gently compressed by drawing the two ends of the ligature in an opposite direction, until Mr. Stringer*, who kept his hands applied to the tumor from the commencement of the operation, announced that the pulsation had ceased. The ligature was then secured by passing a small peg of wood through the hole in its stalk, and a small dossel of lint was laid on each side of the instrument in order to steady it in the wound (a precaution which I have ascertained to be unnecessary), and the sides of the wound were gently approximated by two or three strips of adhesive plaster. The operation was completed in about twelve minutes."—p. 365.

Twenty minutes after the operation "an excruciating pain was felt in the calf of the leg," which abated for ten minutes on relaxing the ligature; but again recurred in the ankle and heel, and continued for four hours, when he vomited freely, "and the pain immediately abated." The cure advanced progressively, the pulse and temperature being affected nearly as in the ordinary operation; and on the fourteenth day "the man went about the ward on crutches." This patient, however, did not completely recover, but died a few months afterwards of aneurism of the aorta. In the second case the operation completely succeeded, and "health was perfectly re-established." An unsuccessful case of tying the femoral artery, in Mr. Travers' method, for an aneurism of the posterior tibial artery, is added to the paper. A violent hæmorrhage supervened on the fifth day, and the artery was again tied three inches higher up; but two days afterwards "the patient became delirious, and died on the following morning." Dissection shewed the artery ulcerated and "completely divided at the place of the first ligature."

We have been minute in our analysis of this paper, from a desire to render the subject of it readily understood by such of our readers as have no opportunity of perusing the original. The thanks of the Profession are certainly due to Mr. Crampton for the communication; and, as the reasoning employed is as convincing as the success of the operations described is satisfactory, we have every reason for anticipating the general adoption of this mode of operating in external aneurism.

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* "Surgeon to the King's Infirmary."

The thirty-fifth paper of the volume details a *Case of Inguinal Aneurism, cured by tying the external Iliac Artery;* by John Smith Soden, Esq.

In this cure, the operation was performed "according to the mode recommended by Mr. Abernethy," except that a very thin silk ligature was employed. No very untoward circumstance occurred to prevent the progress of the cure; the ligature was detached on the fifteenth day, and in less than two months the patient was discharged cured.

The next surgical paper of our arrangement is intitled, *Further Observations on Contractions succeeding to Ulceration of the Skin*; by Henry Earle, Esq. In the year 1814, Mr. Earle read a paper to the Society on this subject; but as the success of the plan of treatment, which he proposed, rested on the authority of a single case only, the present communication containing two cases of his own, a third by Mr. Brodie, and a fourth by Mr. Ring, is brought forward as additional evidence in its favour. The treatment recommended consists in dissecting out the cicatrix that forms the bridle by which the part is contracted, and keeping the limb properly extended on a splint until the wound be completely healed. In Mr. Brodie's case, the bridle was on the anterior part of the neck, "drawing down the lower lip, cheeks, and angles of the mouth, keeping the chin much depressed, and preventing the jaws being closed." On removing the cicatrix, the edges of the wound were drawn together by adhesive plaster from side to side, "and a broad collar of pasteboard was applied round the neck over the dressings," by which means the new cicatrix was made vertical instead of transverse. Upon the whole the plan of Mr. Earle for the treatment of such cases is the best that has yet been proposed.

The last of the surgical papers is by the same author, and details the history of a *Case of Hernia of the Dura Mater connected with Hydrocephalus Internus.* The tumour, which in this instance was situated at the back of the head, was "large, transparent," and globular, and had existed from birth, the child being eight days old at the time Mr. Earle's assistance was solicited. In consultation with Mr. Astley Cooper and Mr. Woods, it was agreed to puncture the tumour, and apply compression. The operation was repeated ten times; but the case terminated unfavourably. On dissection, the sac was found to have a communication with the ventricles, which contained four ounces of serum; and it was evident that the quantity of fluid that had been drawn off by the different operations, was supplied from these cavities. In Mr. Earle's opinion, this case "shews that the water contained in the ventricles may be partially drawn off, without causing syncope or any apparent disorder in the functions of the brain;" and, although we ought not hastily to draw inferences from an insulated case, yet, as the disease is occasionally met with, we conceive the practice recommended, when employed with requisite caution to exclude the admission of air by the punctures, may prove useful.

We have now to notice the medical papers, which are five in number. The first we shall examine is intitled, *A Sketch of the Medical History of the First Battalion of the First Regiment of Foot Guards, during the Winter of* 1812-13; by John Bacot, Esq. We are of opinion, that no species of medical writing is so likely to prove useful as the history of the health of an army, or even of a single battalion during a campaign, provided that the observations which have arisen out of the events are of a nature to elucidate difficult points of practice, to improve the economy of hospitals, or even to raise suggestions which may afterwards lead to useful investigations. We cannot say that the perusal of the history under consideration has left any very strong impression of its importance upon our minds. The facts detailed, however, serve to shew "that men just received from the militia are unfit for field service;" and that extreme "rigour and privation" are of themselves sufficient to produce fevers having much of the typhoid character, without the aid of contagion. Regarding the treatment of dysentery, which occurring in the period this narrative embraces, Mr. Bacot approves of the use of the lancet; but, he enters into no details illustrative of the particular effects of its employment: indeed, throughout his communication, the observations are too general to prove very instructive.

The next of the medical papers that presents itself, is a *Case of Inflammation in the Muscular Structure of the Heart*; by Edward Stanley, Esq. This case is extremely interesting from the peculiarity of its symptoms, which indicated the seat of the disease to be the brain, in which no organic derangement existed, instead of the heart where inflammation had run on to suppuration, extending "generally throughout the muscular structure of the organ." The patient was one of the boys in Christ's Hospital, and the history of the disease is drawn up from the notes of Mr. Field, the Apothecary of that Institution, who appears to have had the management of the case. The boy, who was previously in apparent good health, was attacked with "the usual symptoms of fever, namely, great bodily heat, a quick pulse, the tongue white, and much furred." These symptoms increased on the next day; a transitory pain was felt "in the left thigh and leg;" and delirium and dilatation of the pupils supervened on the third day; but there was no coma nor insensibility to light; neither was there any irregularity in the action of the heart, nor pain in the thorax; and the boy, when closely questioned on the subject of pain, merely "pointed to his forehead." On this day, also, he had a slight convulsive fit; after which the other symptoms became more aggravated, until the following day, when respiration became for the first time difficult; and, gradually declining, he expired in the afternoon. We are rather surprised that under such a train of symptoms, which evidently indicated inflammation somewhere, the practice was confined "to evacuants and antimonials with the warm bath," the employment of the latter of which in particular we should have been slow to advise with the degree of heat and general excitement present. Leeches to the temples, a blister, and calomel, were afterwards employed, but too late to be of any service.

On dissection, no marks of disease were perceptible in the head, the lungs, or the abdominal viscera; but on opening the pericardium the following appearances presented themselves:—

> "It (the pericardium) was found to contain between four and five ounces of turbid serous fluid, with flakes of coagulable lymph floating in it. The internal surface of the membrane, both where it constituted the exterior bag, and the reflected layer upon the heart, was covered in various situations with a thin layer of lymph exhibiting a reticulated appearance. The size of the heart was natural in relation to the age of the individual. Upon cutting through its parietes, the fibres were exceedingly dark coloured, almost of a black appearance. This evidently depended on the nutrient vessels being loaded with venous blood. The fibres were also very soft and loose in their texture, being easily separable, and with facility compressed between the fingers. Upon looking closely to the cut surface exposed in the section of either ventricle, numerous small collections of dark coloured pus were visible in distinct situations among the muscular fasciculi. Some of these depositions were situated deeply, near to the cavity of the ventricle, while others were more superficial, and had elevated the reflected pericardium from the heart. The muscular fibres of the auricles were also softened in their texture, and loaded with blood, but without any collections of pus between them. All the cavities of the heart were loaded with coagulated blood."—p. 326.

We agree with Mr. Stanley, that this case "is worthy of record;" not merely, however, on account of its rarity, but as a practical lesson, which strongly illustrates the necessity of early depletion, in all cases attended with great vascular action. By subduing the excitement of the heart and arteries, when that is inordinate, no harm can result, although we may remain completely in the dark regarding the seat and causes of the disease; but, by delaying the abstraction of blood until we can determine the organ which is specially effected, the evil may have already become irremediable.

The paper which follows in the order of the arrangement we have adopted, contains *Some Observations on a species of Pulmonary Consumption, very frequent in Great Britain*; by Alexander P. Wilson Philip, M. D.

This paper is not less important, as a medical communication, than that which we have already noticed by Mr. Crampton is in a surgical point of view. It relates to a disease, which although not very rare, yet, is not very generally recognized. Dr. Philip arranges his subject in a clear and systematic manner, pointing out, in the first place, the symptoms which characterize this species of consumption; in the second, its analogy with diseases apparently different; and in the third, the plan of treatment which he has found most successful in it.

Of the Symptoms.—Dr. Philip confines his attention to those only by which the disease is particularly distinguished. The spirits are generally depressed, and the countenance is "more sallow than usual." The cough is at first dry, or nearly so, and recurs at intervals, in fits, which usually come on after eating; "and on lying down, especially" when the patient lies on the back with the shoulders a little raised: "but as in other forms of phthisis it is also troublesome on awaking in the morning." The matter expectorated is at first limpid and glairy, but by degrees becomes pus-like and bloody, and the quantity often amounts to half a pint daily; yet, if it be free from blood, although pus-like, there may be good hopes of recovery. The dyspnœa is not urgent except in the recumbent posture, until the disease is considerably advanced. There is no pain high in the chest, but now and then a dull pain is felt low down in either side; or a darting pain "in various parts of the chest, or in the limbs, back, shoulders, or head." The hectic is seldom complete; and although the emaciation keeps pace with the state of fever, it "is seldom so rapid as in other species of phthisis." But the most characteristic feature of this disease, is the deranged state of the digestive organs, marked by flatulence, irregular bowels, furred tongue, and tenderness of the epigastric region when pressed, which last accords in degree with the cough and dyspnœa. In the more advanced stage of the disease, all the symptoms of tubercular phthisis present themselves, and the fatal event occurs in the same manner.

Causes.—With regard to the *causes* of this form of phthisis, Dr. Philip observes, that in those predisposed it may be produced by all the causes which tend to debilitate the digestive organs.

Dissection displays, besides the appearances usual in phthisical lungs, "almost always" either "a diseased state of the liver, or traces of disease having existed in it:" but the fatal issue of the disease does not appear to arise immediately from the affection of the liver, as the patient lives until "almost the whole lungs are rendered incapable of their function." The spleen also is not uncommonly found diseased.

Of the Nature of Dyspeptic Phthisis.—Under this head Dr. Philip discusses the question, "what is the nature of the relation observed between the affection of the lungs and that of the digestive organs in this species of phthisis?" In the majority of cases the affection of the digestive organs precedes that of the lungs: and it is more likely that disease should extend from these organs to the lungs, than that the opposite occurrence should take place: but it is also justly remarked, that, "it is not to be overlooked, that it is in those most disposed to pulmonary affection that disease of the digestive organs most frequently produces" this form of phthisis. The disease, nevertheless, occurs in habits little disposed to pulmonary affections, "when the digestive organs are naturally weak," or have been weakened by powerful causes of dyspepsia, particularly the free use of spirituous liquors. In illustration of the sympathy "which exists between the state of the digestive organs" and the lungs in this species of phthisis, Dr. Philip refers to Mr. Abernethy's work; and states, that, in the case of dyspeptic phthisis, related by that author, is found "the principle of the treatment which he (Dr. Philip) has employed for more than twelve years." The author has been attacked as to his title to the character of a discoverer which he claims in this part of his essay; but, independent of his defence, which is already before our readers, we see nothing extraordinary in "two observers wholly unconnected, setting out from the most opposite quarters, and meeting in the same point."

Dr. Philip next lays down the plan of *treatment of dyspeptic phthisis:* let us follow him closely in this important part of his subject. He remarks, that, as the affection of the lungs is influenced by "the state of the digestive organs," the means tending to improve the functions of the latter "will here be a useful auxiliary to those usually employed in phthisis:" and as one of the best diagnostics of dyspeptic phthisis is the fullness and tenderness of the epigastric region, indicating an affection of the liver, after the supervening of which only the lungs become affected, it is reasonable to suppose that, as we relieve that organ, we shall "find the affection of the lungs relieved." Our author divides the disease into three stages, "in which the prognosis and mode of treatment are different." In the *first*, in which "the affection of the lungs is nearly sympathetic," the disease is mild, the fever slight, and the expectoration scanty, and consisting "of a colourless phlegm," or masses of a tough glairy appearance and blackish hue. When the expectoration in this stage is free, the "case is seldom troublesome," but when it is otherwise the disease is apt "to degenerate into the most alarming forms." In the *second* stage the lungs are actually diseased, which is indicated by the expectorated matter containing, "small portions of a pus-like substance," the probable production of a simple inflamed surface, or these are occasionally streaked with blood from the giving way of small vessels, which, however, soon heal. The fever increases in this stage and "it seems to be at this period that tubercles generally form." In the last stage the tubercles run on to suppuration, "or the irritated surface of the bronchia and air-cells becoming ulcerated," the attack assumes all the characters of true pulmonary phthisis. It is in the first only of these stages that a favourable prognosis can be given; and, even in that, it must be cautiously hazarded, if the patient display symptoms of a scrophulous diathesis. In treating this stage Dr. Philip advises the attention to be chiefly directed to the

> "keeping up a freer action of the bowels than is necessary in health, and taking care, by occasional doses of the blue pill or calomel, according as the bowels are more or less acted on, to preserve a sufficiently copious and healthy secretion of the bile. I have generally given the mercurial, for the most part one grain of calomel combined with the compound extract of colocynth, every second or third night, desiring the patient not to go out the next day, till it shall have passed off, and if it does not pass off in a couple of hours after rising, to assist it by a moderate dose of Epsom salts. In addition to these means stomachic medicines were generally used, particularly when the appetite was much impaired."—p. 525.

As a stomachic, Dr. Philip objects to Gentian on account of its heating quality, and, yet, in the same paragraph, recommends, in addition to the extract of camomile flowers, "the powder or oil of caraway," either of which is certainly more heating than the simple bitter.

In the second stage, the treatment must be necessarily varied with the symptoms. The following is Dr. Philip's plan—

> "Either laying aside or continuing the occasional grain of calomel, as the state of the bowels seem to require, I have given one grain of the blue pill combined with some mild stomachic, two or three times in the course of twenty-four hours, continuing it either till the tenderness of the epigastric region yielded, and a proper secretion of bile was restored, or the gums appeared a little redder and fuller than natural.
>
> "As the tenderness of the epigastrium abates, and the fæces assume the natural appearance, in by far the majority of cases the pulmonary symptoms gradually disappear. It has been said by many who have seen my practice, that little is to be expected from such minute doses, but I have found the gradual effect produced by such doses on the whole much more beneficial, than the more sudden effects resulting from larger ones, which often induce a degree of debility that more than compensates for the advantage obtained from them."—p. 527.

The strength must be at the same time supported; and, to relieve the tenderness of the epigastrium, when this is slight "a succession of small blisters applied over the part is sufficient," preceded by the abstraction of a few ounces of blood "from the part:" but when the disease is obtinate, "a seton is often highly beneficial." In combination with the mercury, for the purpose of promoting "a regular and healthy secretion of bile," Dr. Philip has found no remedy "equal to the dandelion." Indeed when the stomach can bear it, he recommends a decoction of it poured upon camomile flowers, to be taken as the common drink of the patient,—

> "When the dandelion can be given in the above ways, I often give only half a grain of the blue pill three times a day, and I think generally find as much advantage from it as from a whole grain without the dandelion. Many, I know, will regard the exhibition of such minute doses of mercury as little better than trifling; if, however, they make a patient trial of them, they will, I am persuaded, alter their opinion."—p. 530.

If the gums be affected without the pulmonary symptoms being relieved, "the prognosis is bad:" but the hepatic irritation may be removed, and our author observes "it is surprising from what states the lungs will sometimes recover when relieved from the irritation of the hepatic affection." With regard to the form of exhibiting the mercury, Dr. Philip observes, that, owing to the languid state of the absorbents, very little can be taken up by friction; and as the effects of the remedy depend "on the quantity which the system receives," its internal administration is to be preferred.

When the hepatic affection disappears, and the disease is wholly transferred to the lungs, as "happens frequently in the last stage of this species of phthisis," the prognosis must always be bad; but as long as the hepatic affection continues to recur, we have still some hope, "that on its final removal the lungs may recover themselves."

With respect to the use of anodynes in this species as in the other forms of phthisis, Dr. Philip prefers a combination of the extract of conium and white poppy, opium being too constipating, and the anodyne effects of henbane doubtful. With regard to diet, he justly observes, "when the epigastrium is very tender, animal food and fomented (fermented) liquors are peculiarly injurious."

In every part of this paper, the talent of the author for the minute observation of symptoms is conspicuous; and the practice he recommends admirably adapted to fulfil the intentions of the practitioner: but Dr. Philip's character is already too well established to acquire additional value by any eulogium we can pronounce.

The next paper of our arrangement, the thirty-first of the volume, consists of *Observations on Tetanus*; by David J. H. Dickson, M. D. The chief object of the author in this communication is to illustrate an opinion he appears to have formed, that tetanus is always preceded by a torpid state of the bowels, a symptom which we believe is often a forerunner of idiopathic tetanus, but certainly not so constant an attendant on the traumatic form of the disease. In the cases which Dr. Dickson relates, the symptoms did not particularly differ from those described by preceding writers. He observes, that, "in some of them perspiration flowed very freely without bringing much relief;" and, in all, the dysphagia encreased so rapidly as to render the administration of internal remedies impossible. The dissection of four interesting cases, communicated by Dr. M'Arthur, which Dr. Dickson has subjoined to his paper, exhibited "the intestines much inflamed; and in two of them a yellow waxy fluid, of a peculiar offensive smell," was found "covering their internal surface;" but it could not be ascertained whether "the inflammation was primary," or only the effect of a contraction of the abdominal muscles in the severe opisthotonos that attended them.

As a prophylactic measure, when tetanus is likely to occur in a wound that is nearly healed, but in which the discharge has become vitiated or is suppressed, Dr. Dickson speaks favorably of the application of "blisters as near as possible to the wound itself, to re-excite suppuration," as practised by M. Larrey; and he adds his testimony to that of M. Larrey, that changes of temperature, and "particularly exposure to the cold night air," has a great influence in the production of tetanus. In noticing the decrease of the complaint in the West Indies, he ascribes it chiefly to "the greater attention paid to the state of the bowels, and not any physical change in the climate." How far he is correct in this opinion, we have no opportunity of judging; but if tetanus be a disease arising from irritation, every cause productive of this, whether in a wound or in the course of the alimentary canal, must necessarily tend to increase the disposition to the attack.

The cases of Dr. M'Arthur, as we have already remarked, are extremely interesting. In one of them, eighteen ounces of blood were abstracted at the commencement of the attack, and although the blood shewed no signs of inflammation, yet, in this case "the disease was longer protracted, and the morbid appearances after death were not so strongly marked as in the other cases." The following are the observations made by Dr. M'Arthur, in the inflammatory appearances in the bowels, which his dissections discovered:

"The inflammation in this disease is different from enteritis, or from that which is present in persons who die of the endemial fever of the country. In enteritis the intestines often adhere to one another by layers of coagulable lymph, recently thrown out; flakes of curdled matter are often found, and pus sometimes is formed. In the inflammation attending tetanus there are no adhesions, no formation of pus.

"In the endemial fever the whole of the small intestines is more uniformly inflamed; the internal coats of the stomach and intestines exhibiting gangrenous spots and patches. The colon always contracted, but very rarely inflamed. In tetanus the colon was equally inflamed with the intestines, and not contracted.

"The yellow matter found in the stomach and intestines is very remarkable. It occurred in Collins and Harris, both of them treated on the stimulating plan, and it is probable had the intestines in the first case been opened, a similar matter would have been found. Is it to be considered a feature of the disease? or was it the consequence of the quantity of laudanum exhibited?"—p. 475.

The solution of these queries are undoubtedly of the greatest importance towards establishing a rational and successful mode of treating this dreadful disease; and nothing will be more creditable to the profession than the settling some consistent principles for the guidance of practitioners in warm climates, instead of the vague and ever-varying empyricism which has hitherto prevailed.

The last paper of this class, which we have to notice, is intitled, *Facts illustrating the Effects of the Venereal Disease on the Fœtus in the Utero, and the mode of its communication;* by William Hey, Esq. of Leeds. This paper is in the form of a letter to Mr. John Pearson, at the request of whom it appears to have been written. We know of few practitioners to whose opinions on practical subjects we feel more disposed to pay every deference than to those of Mr. Hey; yet, except the first case detailed by him, and which we subjoin, we doubt much whether any of the cases he has related will be generally regarded as genuine cases of syphilis. To rest upon the mere circumstance of the symptoms yielding to mercury, in alterative doses, although the appearances on the skin may bear a strong resemblance to secondary syphilitic eruptions, is placing the opinion on a very delusive foundation. The first case is thus described:—

"A poor woman, the wife of a soldier, brought to my surgery, a few weeks ago, her child, an infant betwixt two and three months old. This child, without any disorder in its bowels, had become extremely fretful; its voice was grown stridulous. It had upon its chin a scaly eruption, extending to the angles of the lips; and its body was covered with copper-coloured spots. My inquiries of the woman respecting her own health, satisfied me that she had had the venereal disease, from which I apprehended she was not then entirely free. I directed half a grain of submuriate of mercury, with a few grains of pulv. tragac. comp. to be given to the child twice a day, and requested to see it again when the medicine should have been taken seven or eight days. The woman returned at the time appointed, and shewed me her infant much improved in health. Its fretfulness had ceased, and its voice could scarcely be called stridulous. The copper-coloured blotches were beginning to fade, and the eruption upon the chin was diminished. I advised the poor woman to persevere in the use of the medicine, till the disease should have entirely disappeared; but I did not see her again."—p. 542.

Mr. Hey justly observes "that infants in general bear the use of mercurials, even in doses that will often affect adults, without any apparent disturbance of the animal functions." We cannot agree so implicitly with his remark, that syphilis may be communicated by the mother to successive children, in utero, without any fresh infection being received; and where the organs of generation remain "unaffected both in the husband and wife." We believe no point is so difficult to determine, as the existence of syphilis, when the symptoms do not unequivocally arise from sexual intercourse; nor are we prepared, in the case of infantine affections resembling syphilis, to admit the converse of Mr. Hunter's opinion regarding syphiloid diseases; and to accord with Mr. Hey, that "if the disease in question have the usual symptoms of syphilis, and will yield to no other remedy than mercury, we may fairly conclude that it is syphilitic." In one of the cases on which he founds his opinion, the mother, whilst in the seventh month of her pregnancy, had "the labia pudendi, and verge of the anus, beset with irregular fissures and condylemata; a discharge of puriform matter also issued from the vagina." Mercury was exhibited, and before her delivery the parts were healed; but the child had, when born, an universal desquamation of the cuticle; and at a month old, its voice became "hoarse and squeaking," and "a number of copper-coloured blotches" appeared upon the skin. These symptoms disappeared under a mercurial course. This case, primâ facie, appears almost decisive; but when we examine it clearly, and find that the husband "remained free from disease," when his wife was in the condition described, we conceive there is good reason for doubting the accuracy of Mr. Hey's diagnosis.

The concluding paper of the volume is *On the Medicinal Properties of Stramonium, with illustrative Cases;* by Alexander Marcet, M.D. Although the internal administration of this vegetable narcotic was introduced by Störck, so long ago as the year 1762, yet it was but little employed in this country until a few years ago, when the inhalation of its smoke for the relief of asthma became a fashionable remedy. The object of

Dr. Marcet's communication is to shew, that stramonium, when taken into the stomach, has the power "of allaying some of the most obstinate and severe kinds of pain.". We have already* noticed the mode of preparing the extract which Dr. Marcet employed, and the accidental circumstance which led to its employment. The following is his opinion regarding its medicinal properties:—

"The most common effect of Stramonium, when administered in appropriate doses†, in cases of chronic disease, attended with acute pain, is to lessen powerfully, and almost immediately, sensibility and pain; to occasion a sort of nervous shock which is frequently attended with a momentary affection of the head and eyes, with a degree of nausea, and with phænomena resembling those that are produced by intoxication; to excite in many instances nervous sensations, which are referred to the œsophagus, or bronchiæ, or fauces, and which sometimes amount to a sense of suffocation; to have rather a relaxing than an astringent effect upon the bowels; to have no marked influence upon the frequency of the pulse, though in a few instances it has appeared to render it somewhat slower; to produce but a transitory and inconsiderable dilatation of the iris and pupil; and to have but little immediate tendency to induce sleep, except from the state of comparative serenity and ease, which generally follows the symptoms I have just described."—p. 558.

Fourteen cases, illustrative of the effects of stramonium in various painful affections, are detailed. In three of these, two of which were instances of diseased hip-joint, and one of tic douloureux, it entirely failed; but in the others, which were of attacks of sciatica, both simple and combined with syphilitic pains, paraplegia, cancer of the breast, acute uterine disease, and two of tic douloureux, its use was followed by the most evident benefit. As an example of the means of exhibiting it, and its more immediate effects, we extract the two most interesting of the cases:—

"Case IV.—Sarah Mears, aged 23. This is a case which has for some years, at different periods, excited great interest in Guy's Hospital, and given rise amongst the physicians and pupils to much controversy and discussion. The particulars of this young woman's long and problematic sufferings, will probably be some day made public, but would not be relevant to my present purpose. The following short outline of the case, however, will be necessary to convey an idea of the effect of the remedy, the properties of which I have been endeavouring to ascertain.

"The original symptoms were, so far back as five or six years ago, a tumor in the abdomen first inclining towards the left side, but afterwards occupying the whole abdominal region, occasioning in its progress exquisite pain with fever and extreme irritation, and yet not producing emaciation, and not permanently impairing the powers of the constitution, or disturbing the visceral functions. This tumor gradually increased to an enormous size, so as greatly to exceed that of a woman in the ninth month of pregnancy, and the pain became more and more intense, till at last enormous quantities of a sanious or puriform fluid, mixed with blood and serum, were simultaneously discharged, partly by vomiting, and partly by the vagina and the rectum, and the patient soon recovered. In the course of a few months however, the complaint gradually returned with similar symptoms, which were again relieved in the same manner, and the tumor has now, for the 11th time, gone through the process of filling and bursting, with extreme pain and subsequent sudden relief, in the way I have just described.

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* *Repository*, vol. vii. p. 68, in note.

† "I mean from ⅛th to 1 grain, a dose which should not be exceeded till its effects have been ascertained."

"It was on this last occasion, on the 10th of April, during the formation of the tumor, the pain being at its highest pitch, and opium affording but little relief, though given in the dose of from six to ten grains, that the stramonium was tried in the dose of only half a grain, three times a day. This remedy uniformly produced, about a quarter of an hour after being taken, some giddiness and dimness of sight, which lasted a few minutes; but the pain was immediately allayed for a few hours; and the same relief was experienced whenever the pill was repeated. But after continuing the stramonium for five days, the contents of the tumor having been spontaneously discharged in the usual mode, and a truce to the pain having taken place, as on former occasions, the extract was discontinued. This time, however, the cyst was not allowed to fill again; but on the contrary, the moment that the symptoms of throbbing and fulness recurred, the accumulating fluid was forced out by external pressure, and discharged both by the rectum and vagina. During the last three or four months, this operation, which is always more or less painful, has been repeated once or twice a week, and the reproduction of the tumor, at least to any considerable extent, has thus been prevented. Yet such is the tendency to inflammation in the diseased part, that cupping and bleeding, which have been practised during the course of this illness upwards of two hundred times, are still frequently required. Latterly also the functions of the urinary passages have become so much impaired, that the use of the catheter is daily required; and an habitual state of pain and irritation have been induced, which though not equal in intensity to the fits of pain formerly experienced, yet frequently require the assistance of narcotic medicines*. This unfortunate young woman has now had such a long experience of disease, and has become so familiarised with the mode of using palliative medicines, that she has for a long time been allowed to take opium almost at her own discretion. But ever since she has become acquainted with the stramonium, she has had recourse to it in preference. She takes it during the exacerbations of pain, in doses of from half a grain to one grain of the extract from the seeds, or about double that dose of the extract made from the whole plant, either of which affords her more relief than even half an ounce of laudanum, which she now occasionally takes at one dose without much effect. The stramonium however uniformly affects her head and eyes, but this effect is only transitory. I one day requested her to take the stramonium pill whilst I was in the hospital, in order that I might witness its immediate effect. In about 20 minutes after taking it, her eyes became dim like those of a person either extremely sleepy or in a state of intoxication, the pupils appeared somewhat dilated, and she seemed extremely languid and unwilling to speak. The pulse, which was rather quick previous to taking the pill, had now become a little slower, though still rather above the natural frequency. In about half an hour however, all these effects had disappeared, and yet the relief obtained was still distinctly felt. Her bowels are generally open, sometimes relaxed, and scarcely ever require the use of aperient medicines."—p. 566.

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* "It may be proper to observe that the affection of the urinary organs began long before the stramonium was used; and that it evidently originated from the pressure of the tumor on the distended bladder."

"CASE XII.—The following case, in which stramonium was used in *Tic douloureux* with evident benefit, being that of a lady, whose husband is a medical man of considerable experience and observation; and the outline of the case having been drawn up at my request by that gentleman himself, I shall lay it before the Society in his own words.

"The complaint in Mrs. S.'s face* began in the first week in Lent, and continued about eight weeks, when it appeared to have yielded to occasional doses of opium, and a mixture of valerian, camphor and ether. During this period a plaster of cicuta and opium was applied to the face, and before it was removed produced active vesication. The relief however from this, if any, was but temporary. Mrs. S. now went into Hertfordshire, and the complaint returned in about a fortnight, which was probably induced by riding frequently in an open chaise in the high grounds of this country. The same remedies now having been again employed, afforded no relief, when recourse was had to the stramonium, in doses of ¼ grain of the extract from the seeds, which afforded almost immediate cessation of pain, and was afterwards frequently resorted to for this purpose, and on no occasion was it necessary to repeat it more than a second time after an interval of two hours. The stramonium never produced any inconvenience, and never failed of relief; so much was this depended on, that Mrs. S. never went without some of the pills in her pocket. It was now thought that the complaint in the face might be connected with spasms in the stomach, to which Mrs. S. had been for some years subject, and which were connected with a costive state of the bowels. With this view she was advised to adopt a mild mercurial regimen (the blue pill), and appeared to derive considerable benefit from its continuance. At present she has discontinued the mercurial plan for about two months, and had been free from the complaint some time before. It may be necessary to mention that, during the first attack, the bark was taken in large quantity. The arsenical solution was also used, till it disagreed so much as to oblige us to leave it off. Thus, although the mercurial plan appears to have produced the most permanent advantage, yet it must be confessed that the effect of the stramonium was extremely beneficial in affording immediate relief when the pains were excruciating."—p. 575.

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* "This lady was seen by several medical men, and amongst others by Mr. Astley Cooper, who did not hesitate in considering her as labouring under *Tic douloureux.*"

Such are the contents of the Second Part of the Seventh Volume of this Society's Transactions. In a publication, the successive parts of which succeed each other so rapidly, it cannot be expected that every paper will possess equal interest; but we know of no publication which constitutes so valuable a record of practice. Justice, however, obliges us to notice the careless manner in which many of the cases are drawn up; warfare being apparently declared by the writers against the articles *a* and *the*; the conjunctions *that*, *but*, *and*; the pronouns *he*, *she*, *we*, *they*; and almost every tense of the verb *to be*. The following are a very few examples of the sentences we allude to: "he took sixty drops of laudanum every second hour, in as much wine as he could swallow; and *a blister applied* to the surface, &c." (p. 468); "neck and jaw of natural appearance," (p. 470); "a very extraordinary yellow fluid, resembling that in the stomach, was in great abundance in every part of the internal canal, *which*, upon cutting into the intestine, effervesced, &c." (p. 474). It would, assuredly, be more creditable to the Society, were the Council to rectify such errors, when the alterations can be made without impairing the sense of the author.

III.

Medical Suggestions for the Treatment of Dysentery, of Intermittent and Remittent Fevers, as generally prevalent at certain Seasons among Troops in the Field. By Edmund Sigismond Somers, M.D. Physician in Chief to the Allied Armies in the Peninsula, &c. 8vo. pp. 78. London 1816. Longman & Co.

This, although a slender volume, yet is one of very considerable pretensions. Whatever it is, however, we are bound to examine it as to its intrinsic merits. Our personal respect for the author might incline us to touch lightly upon its faults;

but the high rank he held in the Peninsula, and the weight which the authority of his situation must naturally add to his opinions with the junior part of the profession, bind us to the strictest performance of our duty.

In his Preface, Dr. Somers informs us, that being in the charge of the Nuncio General Hospital at Lisbon in 1809 and the two following years, a period, when it was the receptacle of "about three hundred" of the worst cases of intermittent and remittent fevers and dysenteries, he found very little satisfaction from employing the usual mode of treating the last of these diseases; "many of the relieved cases having degenerated into the chronic stage [state], and these eventually fallen victims to the disease in complication with visceral affections." Reflecting on the causes of such discouraging results, and observing that the systems of the patients were exhausted by continued oozings of blood from "a considerable portion of extravasated surface," he was induced to employ blood-letting in recent cases, to an extent "unprecedented for its freedom in the annals of this distemper;" and obtained results successful beyond his most sanguine expectation. The object of the volume before us, is to give publicity to this practice.

The work commences with some remarks on *Intermittent Fever*. Regarding any inquiry into the proximate cause of the febrile paroxysm, useless from the "impenetrable darkness" which involves it, Dr. Somers proposes—

> "to wave this enquiry altogether; and, contenting ourselves with a steady investigation and just discrimination of the *symptoms* of fever, endeavour to subdue them by employing the most approved means, which the accumulating progress of enlightened and felicitous experience shall have placed within our reach."—p. 1.

After such a declaration, we certainly expected a display of the symptoms of intermittent as they occurred in the cases under the author's care, drawn with force and all the truth of Nature, the originals being immediately before his eyes; but instead of this, we are presented with twelve pages of quotation from Cullen's First Lines, because, as we are informed, "it were assuredly the height of presumption" to offer any other description, while one so full and accurate as that of the "venerable Patriarch of the modern School of Physic," existed. Now we trust we shall not be accused of passing a harsh judgment, when we remark, that in our opinion this proceeding savours more of indolence than modesty.

Having glanced in a very cursory manner at the predisponent and occasional causes, Dr. Somers proceeds to detail the method of cure.

> "Three indications of cure may be laid down.
>
> "1. To cut short the cold fit or put it off altogether.

" 2. To prevent the recurrence of the paroxysm.

" 3. To restore the tone of the system.

" *The first indication* may be often accomplished by the following plan of treatment.

" Let the patient, at the approach of the cold fit, be directed to take a table spoonful of mistura emetica every quarter of an hour, until full vomiting be produced, drinking during the operation large repeated draughts of mawkishly warm camomile infusion. When the operation of the emetic is over, let him be placed in a warm bath for a few minutes, then put to bed between the blankets. He is to drink abundantly of warm barley decoction, when a profuse sweat flowing for some hours, will generally be the consequence, and the paroxysm for the present put off, or at least the cold stage cut short, and a favourable intermission gained.

" SECOND INDICATION.—As soon as the circulation becomes calm, and the body reduced to its natural standard of heat, haustus tonicus should be given every two hours; during this course, in order to promote best the efficacy of the medicine, strong exercise, preferably on horseback, should be enjoined, and generous diet allowed, with a few glasses of old port wine at dinner. The practitioner should warn his patient to be attentive and alive to the actual state of his feelings on the successive days about the same hour of his late attack, and having by him haustus prophylacticus, let him drink it off whenever he has a presentiment of approaching cold fit, and betake him forthwith to bed. A profuse sweat will probably ensue.

" This powerful draught has seldom failed to accomplish its purpose; and with the observance intimated above, haustus tonicus is to be again resorted to, impressing always the expediency of using strong exercise and nutritious diet.

" This course of treatment should be persevered in until two or three periods of the apprehended attack shall have gone by, when the dose of haustus tonicus may be lessened and not so frequently administered during the six or eight following days.

" Should the draught be rejected by the stomach, or occasion a looseness of the bowels, two or three drops of tincture of opium may be added to each dose.

" Buttermilk has been found a successful vehicle for the powdered bark, in cases where it had been rejected in the more usual modes of exhibition.

" In some cases of intermittent, where the bark in the various accustomed formulæ was rejected from extreme irritability of stomach, Dr. Vetch, Physician to the Forces, has succeeded by adding to each dose of the turbid infusion of bark some grains of supercarbonate of potash and a just proportion of lime juice or acetic acid; it was given in the state of effervescence.

" I forbear adverting to the different species and varieties of Intermittent Fevers, as they all originate from similar causes, and, with little variation, yield to the same method of cure.

" THIRD INDICATION.—For this purpose an ounce of mistura cinchonæ administered three or four times a day; exercise in the open air on horseback; nutritious diet, with the grateful auxiliary generous wine; these are the means which may be resorted to with an assurance of the happiest effects."—p. 14.

The tonic draught, *haustus tonicus*, referred to in the foregoing passage, is composed of a fluid ounce of infusion of cinchona bark, four scruples of the powder, and one fluid drachm of the tincture: the prophylactic draught contains a fluid ounce and a half of liquor ammoniæ acetatis, fifty minims of the tincture of opium, a fluid drachm of sulphuric ether, and thirty minims of spirit of lavender.

When intermittents become chronic, with visceral affections, Dr. Somers considers change of climate as the only remedy on which we can rely: but, if this cannot be obtained, he recommends a mercurial course, carried to an extent to effect "seriously the salivary glands," and after it the exhibition of the bark and a chalybeate tincture, consisting of a citrate of iron, prepared by exposing four ounces of iron filings to two pounds of seville orange juice for three days, and adding to the defecated liquor four fluid ounces of tincture of cinchona, and one fluid ounce of spirit of lavender," a combination which, by the bye, is no favourable specimen of the Doctor's chemical knowledge. He decries the use of the arsenical solution in these cases, and adds, that even when it effects a cure "it entails a malady of most formidable import, namely, universal debility, from which the miserable sufferers hardly ever recover."

Our author next takes up the subject of *Remittent Fever*. After the description of the symptoms, with the enumeration of the predisponent and occasional causes, which display in a striking manner Dr. Somers' aversion from long disquisitions, he offers it as his opinion, that as intermittent and remittent fever depend upon nearly the same causes, the appearance of the one or the other may be determined by "the different degrees of susceptibility by different constitutions of the morbific virus; or possibly in the more or less diluted state of the marshy exhalations and putrescent effluvia." In the treatment of remittents our author chiefly relies on the cold affusion, which he describes as a remedy "of sovereign power and efficacy:" and he adds his testimony in favour of the non-contagious nature of yellow fever, some hundred cases of which, he states, came under his observation "during a two years' attendance in the hospitals of Jamaica." To fulfil the second indication of cure, the prevention of the recurrence of the paroxysm, Dr. Somers employs the tonic draught, regulating the bowels "by emollient, gentle laxative injections;" and the third indication, he remarks, "may be followed up as in convalescence from intermittent fever."

The above mode of treating remittent is truly *marvellously*

er, who has seen the disease in its
its ravages in tropical climates,
to its efficiency? The subject has
late years to require us to enlarge

e consideration of intermittent and re-
next enters upon that of *Dysentery*,
this Essay. The "summary of the
nothing that is not familiar to every stu-
ponent causes" are simply enumerated;
occasional causes," the author, forgetting
which he set out, has fairly lost himself in
pothesis. After correctly remarking that
e surface of the body, particularly through
clothing," is the chief occasional cause of
ntery.—

and insensible perspiration are suppressed
upon the alimentary canal, where, from the
of the atmosphere, it acquires a certain degree
virus sui generis, exciting local inflammation
vessels, and consequent hæmorrhage."—

might he exclaimed, "angusta quidem est sci-
the passage we have just quoted were to be
men of general medical reasoning. We con-
have credited the information, had it not
author's own hand, that a doctrine at once
associate still found a supporter. Does not
sympathy which exists between the vessels
of the intestines; and the consequent ef-
be produced upon the latter by the appli-
the former? But even were it admitted that
thrown inwards upon the alimentary canal,"
we would ask, can the atmosphere act upon it
change it into the *virus sui generis*, the acri-
upon the superficial vessels of the primæ
to regard as the proximate cause of dysentery?
that medical theories, or rather hy-
influence practice, and that a physician may
to the successful treatment of a disease, of the
of which he entertains the most erroneous
is the situation of our author.

judiciously divides his method of cure into three
To abate the local inflammation: 2. to
free the intestinal canal: and 3. to restore
To fulfil the first and second,

" sixteen ounces of blood were immediately drawn from the arm; in about an hour afterwards the patient was directed to take at three short intervals solutio laxativa, and during the operation, plentiful draughts of warm apple, rice, or barley water, and to clothe in flannel shirt, drawers, and woollen stockings. At night, a general warm bath for fifteen or twenty minutes was administered.

" In the mean time, and uniformly in all the cases treated, the strictest attention was paid to ventilation and cleanliness; the excrements were instantly removed, and buried at a distance some depth under ground; the close-stool pans were carefully rinsed, first with warm and then cold water, after every evacuation; and the wards duly fumigated by means of Dr. Carmichael Smyth's nitric gas.

" Next morning the venæsection was repeated, and shortly after were given fifteen grains of pulvis ipecacuanhæ compositus, as much an hour after, and a third dose at the like interval; the patient was placed naked between the blankets, under additional covering, and directed to encourage profuse sweating for ten or twelve hours, and to dilute with abundance of warm barley decoction, linseed tea, or rice water.

" At night a bason of thick rice gruel, sago, salep, or tapioca jelly was given in order to refresh and moderately support the patient. The following morning, blood still continuing to be discharged, venæsection was repeated, with solutio laxativa, as on the first day, in the evening a bason of spoon meat, and at night bolus mercurialis.

" Fourth day. If the stools had still a reddish appearance, a small bleeding of eight or ten ounces was prescribed, pulvis ipecacuanhæ compositus repeated, with at night a bason of panada, or any of the nutritious substances above mentioned. After this period venæsection was seldom found necessary; at the same time I am free to confess my opinion, that whilst the excrement continues tinged with blood, and the pulse do not flag, the lancet should not be entirely sheathed.

" In cases where the pains of the bowels were excruciating, and the tenesmus very distressing, the general warm bath for about twenty minutes procured certain relief; enema amylosum was also found conducive to ease and benefit under those sufferings. In extreme cases, flannel swathes to the abdomen, moistened with warm camphorated spirit, or tincture of opium, sinapisms, and even blisters were applied with the best effects."—p. 33.

This plan of treatment, in the general propriety of which we accord, although we should not be disposed to adopt all of the Doctor's formulæ, was not interrupted in the cases referred to by the supervening of intermittent, which, as we are informed, the bleeding, frequently " softened down into the type of mild continued fever." None of the cases of " recent dysentery," under our author's management, were complicated with low typhoid fever.

The disease being subdued, the strength of the patient is rected to be brought up by horse exercise, and mild nourishing diet; while, with the view of aiding these and shortening the period of convalescence, cardiacs and chalybeate medicines are properly recommended. The different periods, from the commencement of the attack, at which the case is first seen by the practitioner, must necessarily modify the plan of treatment; but our author recommends the moderate and repeated abstraction of blood, even in the advanced stages, whilst the pulse remains sufficiently firm, as long as any blood is perceived in the stools. We were much amused with the style of the following passage, which is intended to develope the causes of the sudden deaths that occasionally occur in chronic dysentery:—

> "In the endeavour to account for the suddenness of those deaths, it might perhaps be no unfair inference, that the fatal stroke hence rapidly closed the scene, from the immediate contact of acrimonious matter having gradually sapped the nobler viscera, those important [illegible] of the constitution, some of these suddenly breaking away, an overpowering extravasation of fluid ensues and forthwith sweeps off the miserable victim."—p. 40.

Our author next quotes a passage from Sydenham, in support "of the doctrine and practice just recommended;" but although nothing is to be found in the passage referred to regarding perspiration being thrown in upon the bowels, yet we would remind the Doctor, that he could scarcely have chosen an authority whose theoretical notions were so often at variance with the energetic and judicious practice he generally adopted. Considering the question, whether dysentery be contagious? our author marshals himself with the non-contagionists; which may perhaps surprise some of our readers, after the perusal of the passage we have quoted, in which it is stated, that "the excrements were instantly removed, and buried at a distance some depth under ground."

To illustrate the inflammatory appearances presented by the dissection of fatal cases of dysentery and the salutary effects of blood-letting, a valuable communication is given from our friend and correspondent, Deputy-Inspector Hennen. Two cases of the efficacy of our author's practice, as they occurred under the care of Staff-Surgeon Dease, are also added; and two dissections of chronic dysentery, detailed from the notes of the same gentleman; which fully establish the propriety of the "venesectionary" practice, to use the singular phraseology of our author, in the early stage of the attack. The Essay concludes with some general directions, which may prove useful to the hospital mate; and an Appendix, containing a *Pharmacopœia Compendiaria*, our opinion of the value of which may be already understood from the hints which we have thrown out regarding it.

Notwithstanding the faults we have exposed, candour obliges us to admit that this Essay is valuable, inasmuch as it records the success attending one mode of treating a virulent disease, which is more to be dreaded by an army than the worst mischance which the mere fortune of arms can inflict; and although we are not prepared to admit the hyperbolical praises of venesection as a remedy in dysentery, which Dr. Somers has bestowed upon it; yet we think it one of the most rational means which can be employed at the commencement of an attack, to check its progress. To Dr. Somers we allow is justly due the merit of having pointed out the extent to which it may be carried; but in no other respect is he entitled to the credit of a discoverer.

In concluding, we cannot avoid noticing the affectation of style which the author of this essay has assumed. Such words, also, as *chronicism*, *venæsectionary*, &c. may appear to him valuable additions to our language, but we suspect they will be very differently appreciated by those who have any correctness of ear, or just feeling for the purity of English composition.

PART III.

SELECTIONS.

Observations on the Use of the Nitro-Muriatic Acid Bath.—By Dr. Scott.

I HAVE for some time past used three parts of nitrous acid, mixed with one part of muriatic. I am doubtful if these proportions of the acids are the best that can be employed. We know far too little of the theory of the effects of this compound on the human body, to be able to depend on any reasoning. I have of late for myself, and with others, used *equal* parts of the acids, and have, I think, derived as powerful effects, and probably still more powerful, in this way, than when the former proportions were employed. The proportions then of the acids, and many other circumstances, must be left to future experience.

On the mixture of the acids, a great volume of elastic gas is disengaged, which is extremely offensive, and which soon pervades every part of a house. In order to avoid this, the acids should be diluted with about twice their bulk of water. Put, then, the necessary quantity of water into a bottle or other glass vessel, and pour on it the acids, one after the other. This may be kept for use in the common wine-bottles. It is, however, generally right to have this diluted mixture of the acids made by the apothecaries or chemists.

I have frequently in India exposed the whole surface of the body below the head to the action of this acid bath. I have, however, found in this country, that it is generally sufficient to *bathe legs to the knees, or a little above them.* Get a wooden tub, just large enough to hold the feet at its bottom, and at top to contain the legs or knees. The bottom of such a tub should be wider than its top, for it is desirable, that, in addition to the feet and legs, it should hold as little fluid as possible. If larger, the bath will be less easily warmed, and the expenditure of acid will be greater. To such a tub as I have described, a quart bottle full of the before-mentioned acid mixture may be sufficient. This rule, however, is not enough; for the acids vary much in strength at different times, and the skins of people are affected differently. The taste affords another method of judging. The bath should be about as sour as weak vinegar, and it should prick the skin a little, though not much, after being exposed to it for half an hour. If stronger than this, it will produce troublesome pimples, and give a yellow colour to the nails and the skin of the feet, all of which should be avoided. A common wash-hand basin does very well with some people for bathing the feet, sponging the legs at the same time.

The bath should be made agreeably warm by pouring into it a sufficient quantity of boiling water. In order to warm it, I have commonly thrown out about a third or a fourth of it, replacing the loss by boiling water and a little fresh acid. This is, perhaps, the best method; but I have, at times, warmed it in glass or well glazed vessels of earth. This should not be done often, for it probably injures the bath. I am not now convinced that a particle of *acid* enters the system! The effects arise, I suspect, from chlorine alone.

I was long anxious to procure a substitute for mercury, and for many purposes I found it at last in the Nitro-muriatic acid Bath. I have already, in London, seen enough of it to conclude, that it is not less efficacious than in India, and that it is capable of relieving, or of curing a great range of diseases; nor do these recent observations rest on my authority alone. If I can overcome the unwillingness of the medical world to try so new a remedy (and I cannot charge them with unreasonable scepticism in such a case), a confirmation of what I have asserted will appear in time from many quarters.

I shall only take notice at present, for it is particularly necessary, of a class of derangements which are very common. They are called *bilious*, and arise from the biliary secretions being too abundant, deficient, or depraved. Hence are produced disorders of the stomach, giddiness, feverish heat, and pain of the head, restless nights, cramp, melancholy, and many of those unhappy feelings to which the term nervous has been applied. In such cases, let the patient sit in the tepid N. M. Bath for the legs, one hour or less according to circumstances, every night, or every second night. With some of these biliously disposed people, the first bath, and in a few hours, produces the decided effects. It purges, gives rise to the expulsion of dark-coloured fæces or bright coloured bile, or bile of a brown, a green, or black colour, like tar mixed with oil. The pulse becomes quicker than natural, and a degree of restlessness takes place. These effects may be kept up for a number of days. They, however, are often much longer in appearing. Where the bile is deficient in quantity, the effects of the bath are only known by the fæces returning by degrees to their natural colour, and by a gradual improvement of the health. With people disposed to bile, it is necessary to keep the bowels very open during the use of the bath; for one of its effects, as I have said, and on which much of its beneficial tendency depends, is to produce a flow of bile into the intestinal canal. The immediate consequence of this is a feeling of being bilious, such as head-ache, giddiness, &c. &c. which should be obviated by laxatives. Those inconvenient effects of the bath arise from the very powers which enable it to correct some depraved conditions of the stomach and biliary organs. Although this bath, with little disturbance, produces many happy effects, let it not be supposed that delicate, or even strong people, suffer no temporary inconvenience. Let it always be recollected, that the advantages produced by it can never be fully appreciated until the patient has given up the use of it for a considerable time. Even those who feel no very sensible effects from it at the moment, generally, in the end, find their health improved. The great remedy at present for bile is calomel, or mercury in some form; but this it is necessary, after a time, to repeat. The very same thing is true of the bath: when the bilious feelings return, it must be repeated. Patients must themselves discover how long they can go on without its use; and when they return to it, two or three bathings of the legs will generally be found to bring relief. If the bath were used cold, it would produce the very same effects as when tepid; but I recommend to warm it, for in this climate it might be inconvenient, especially in winter, to use it otherwise. Sponging the body with it has the very same effects with bathing in it, as I know from experience. For this purpose, put some hot water into a wash-hand basin, with a proper portion of nitro-muriatic acid, and sponge the thighs, legs, and abdomen, for fifteen minutes daily; or these parts may be sponged alternately.

For sponging, the acid should be still more diluted than for bathing. The common error is making it too strong in both cases.—*Bell's Surgical Observations*, Part III.

PART IV.

FOREIGN MEDICAL SCIENCE AND LITERATURE.

PHYSIOLOGY, PRACTICE OF MEDICINE, AND SURGERY.

I.—The late *M. Le Gallois*, whose exalted character as a physiologist is universally known, some years ago, read a memoir to the French Institute, on the subject of *Animal Heat*: the following, which is a second Essay by him on the same interesting subject, and which also was read to the Institute, is translated from the *Annales de Chimie et de Physique*[*].

" In the first Memoir which I had the honour of presenting to the class, I compared the cooling which takes place in decapitated animals in whom the pulmonary action is kept up by artificial means, with that which happens in the same period of time, after death, among animals of the same species and of the same weight, and examined the principal circumstances connected with each state. It has been remarked in England, that the cooling is nearly the same in both cases, although oxygen is absorbed, and carbonic acid formed in the lungs of the decapitated animal, when these are artificially inflated. It has even been asserted that the decapitated animal cools sooner than the dead animal, which is attributed to the air used for the inflation of the lungs carrying off some of the caloric. Hence it was concluded that the lungs were not the source of animal heat, a d that animals lost caloric by respiration instead of acquiring it. The results of my former experiments were, 1. That animals in whom respiration is kept up after they are decapitated, cool in a considerable degree; but nevertheless, in the greater number of cases, and particularly in certain kinds of animals, as for example, cats, a temperature exceeding that of dead animals by one to three degrees (centig.) is always maintained; 2. That in cooling down an equal number of degrees, decapitated animals evidently part with more caloric in a given time than those which are dead, and consequently, even supposing that the temperature of both is lowered in the same proportion, it cannot be concluded that no heat is developed in the first; 3. The artificial pulmonary insufflation in animals entire and otherwise perfectly healthy, lowers their temperature, and, would even produce death from cold, were the operation continued for a certain period of time. 4. That whatever constrains or impedes respiration produces a sensible effect, and that, merely by holding an animal stretched upon its back, it becomes cold and would even die if kept for a long time in that position.

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[*] Vide *Ann. de Chimie, &c.* tom. iv. p. 1.

"These results demonstrate, that in the different cases in which animals become cold, respiration is always deranged; but the capital point to be ascertained is, whether, when an animal becomes cold, the derangement then remarked in the respiration is always accompanied with a decrease in the absorption of oxygen and the formation of carbonic acid; and whether this decrease is in a direct ratio with the degree of cooling. To determine this is the subject of the present Memoir; but before proceeding farther I ought to declare, that in all the experiments which I am about to detail, I have been assisted by M. Thillaye, jun., a philosopher as enlightened as he is dexterous in experimental manipulations; and that they have been made in the Cabinet of the Faculty of Medicine, where all the apparatus we required was placed at our disposal.

"We were very desirous to determine whether an animal consumes less oxygen by artificial pulmonary insufflation, than by natural respiration; but it was extremely difficult to effect this by direct experiments; for, although it is easy to ascertain the changes which an animal produces on a given quantity of air in which it is inclosed and respires naturally, yet it cannot be so easily determined when the respiration is artificially maintained, as the animal cannot then be isolated in close vessels; and the complicated nature of the apparatus which would be therefore requisite, would necessarily give rise to many errors. Reflecting on these circumstances, we directed our researches to the cooling produced, when respiration is disturbed*.

"I remarked in my first Memoir, and have repeated the observation in the present, that among the other means of lowering the temperature of an animal by affecting the respiration, one of the most simple and most easily practised, consists in holding it extended upon its back. We therefore endeavoured to ascertain whether an animal consumes less oxygen when fixed in this position, than when it is in a state of freedom; and if it consumes as much less as it cools more; being well persuaded, that if in this case the cooling be in relation to the consumption of the oxygen, it ought to be the same in every other where the respiration is deranged, and consequently in pulmonary insufflation.

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* Since this Memoir was read, M. Le Gallois invented an apparatus by which he was enabled to ascertain the alterations produced on the air employed in maintaining the artificial respiration of animals; but the result of these researches have not been published.

"Our first experiments were made upon rabbits from thirty to forty days old, which were placed under the bell glass receiver of a pneumatic apparatus: the water in the trough being lime water. Each animal was the subject of two experiments; in the one, it was left at perfect liberty under the receiver; while in the other, it was extended upon its back and fastened upon a piece of wood by the four limbs. One or two days were generally allowed to intervene between the two experiments, and we sometimes commenced with the one and sometimes with the other. The following was the mode in which our experiments were conducted. After having placed the receiver filled with water upon the shelf of the trough, we took a glass bottle with a narrow neck, the mouth of which was ground with emery, so that it could be accurately closed by means of a plate of ground glass. This bottle served as a guage. We then closed it with the glass plate, and plunging its neck into the water of the trough, transferred the air which it contained into the receiver; after which, the same operation was repeated a second time. These two measures of air formed together 14600 cubic centimetres, which was the quantity of air we constantly employed in all our experiments of this kind. Having thrown up the proper quantity of air into the receiver, we passed into it through the water a small wooden support which floated on the fluid, and upon which we placed the animal, by introducing it also through the water. The animal was left in this situation for three hours, and then withdrawn through the water, as was likewise the support. The receiver was next sunk vertically in the trough until the stop-cock at its top was under the water, when we emptied the air from it into our guage, which for this purpose was filled with water, and fixed upon the stop-cock of the receiver. This was done at several times. On each quantity of air being received into the bottle, the mouth of it was closed by the glass plate, and the air and water strongly agitated together. This water, as has been already stated, was lime water. The bottle was then re-fixed to the stop-cock of the receiver, and a new portion of air admitted into it, which was washed in the same manner as the former. Proceeding in this way until the guage was nearly filled with the air of the receiver, and exactly one-half of the whole had been transferred, the bottle was next closed with the glass plate, and being removed from the trough, the water it contained was poured into a vessel and set apart. The same proceeding being followed until the whole of the air had been progressively transferred from the receiver into the guage bottle, the water it ultimately contained was added to that which was previously set apart, and the whole quantity weighed in an excellent balance. As the barometrical pressure and the temperature could not vary very much during the experiment, it is evident that the bulk of this water, which was easily determined by its weight, represented exactly the air which had disappeared during the experiment. The following are the results of our first experiments :—

" Volume of air employed = 14890 cubic centimetres, Duration of the experiments = 3 hours.

Weight of the rabbits. Grammes.	*Air consumed in cubic centimetres.*
1st rabbit 436.........	1656·8 at liberty
	878·8 fixed on its back
2nd rabbit 420.........	1471·8 at liberty
	892·3 fixed
3rd rabbit 363.........	1552·8 fixed
	1683·0 at liberty
4th rabbit 319.........	341·3 fixed
	1505·8 at liberty
5th rabbit 300.........	461·8 fixed
	1197·2 at liberty.

There was no doubt that the air which disappeared in these experiments was oxygen. All of them, except the third, shewed that the quantity consumed by each animal was considerably greater when the animal was left to breathe at liberty than when constrained; a result which might have been anticipated. It therefore appears, that an animal consumes less oxygen when its breathing is impeded, than when it is free: and if the third experiment presented a slight difference, it might be attributed to some error in the management. To determine this point, therefore, we repeated some of our experiments, after an interval of fifteen days. The results were very different from those we had already obtained, and threw a considerable degree of uncertainty over our proceedings.

Volume of air employed = 14890 cubic centimetres. Duration of the experiments = 3 hours.

Weight of the rabbits. Grammes.	*Air consumed.*
1st rabbit 215.........	848 free
	1091·8 constrained
2nd rabbit 367.........	1517·4 free
	1647·8 constrained
3rd rabbit 416·5......	1549·8 free
	1768·8 constrained
4th rabbit 271.........	1509·2 free
	1338·8 constrained
5th rabbit 401.........	1563·4 free
	1489·0 constrained.

" The results of the three first of these experiments were in direct opposition with those we had before obtained: the difference between the consumption of the free and the constrained animal was not nearly so great: nevertheless these results appeared to us much more correct; for, apprehensive that some error might be committed in measuring the gas, we had had recourse to eudiometrical analyse by hydrogen gas as the means of verifying it. The chief cause, therefore, to which we could attribute this anomaly was a change in the temperature of the atmosphere; for in every other respect, the two series of experiments had been made with the same apparatus and in the same manner. At the time the first were made, the temperature of the atmosphere was between eight and ten degrees of the centigrade thermometer; whereas, after the interval of fifteen days which elapsed before the second were begun, the weather had changed; and the atmospheric temperature had so much increased, that the same thermometer ranged between fifteen and nineteen. Another circumstance which should be remarked, and which also probably depended upon temperature, was, that, in the first experiments, the constrained animals were languid and very ill when we withdrew them from the receiver; which was not the case, at least to the same degree, in the second series. From the last set of experiments we might conclude, that at a moderately elevated temperature a rabbit consumes, not always, but often, a little more oxygen when its respiration is impeded, than when it is free. We were anxious to ascertain whether that was the case in other kinds of animals. Two kittens twenty days old, of the same size, and very nearly of the same weight (200 grammes) were shut up, the one after the other, in the same apparatus, with an equal quantity of air, and during the same time as the rabbits. The one, when left in a state of freedom, consumed 1952·2 cubic centimetres of oxygen; and on the following day, when fixed down upon a piece of wood, 1595·2. The other consumed 1922·4 cubic centimetres when free; and on the next day, when tied down 1414·2. The temperature of the atmosphere during these experiments was preserved between fifteen and nineteen degrees. The kittens appear, therefore, to have produced the same effect at a moderately elevated temperature as was produced by the rabbits at a low temperature.

" The object of these experiments being to compare the cooling which takes place in an animal tied down with the quantity of oxygen which it consumes, it occurred to me that the cooling might not always supervene, and that the same diversity might obtain in this circumstance as occurs in the absorption of oxygen. It was at the end of winter, when the temperature of the atmosphere did not exceed nine degrees, that I first noticed the cooling produced by position; but if it did not take place in every species of animal at a more elevated temperature, it was possible that the results which I had detailed were not correct, at least in what concerned the principal object of our researches. To determine this point I fixed some rabbits upon their backs in the open air, the temperature of the atmosphere being between thirteen and twenty degrees (centig.). I found that the cooling always took place, and that at this temperature, and even at one much lower, by prolonging the experiment, the cooling went so far as to produce death: only it was in general less quick at a moderately elevated temperature. I ought to remark also, that the degree of cooling, at the end of a given time, varied greatly in animals of the same age and weight, and in a temperature nearly the same. In some cases it was more than eight degrees in three hours, whilst in others it was 3·5 only in fourteen hours, which was scarcely two-thirds of a degree in three hours. I convinced myself that the principal causes of these differences was the tightness with which the animal was bound down, or the relaxing of the bands in the course of an experiment; and that binding them more firmly always accelerated the cooling. Finally, I remarked that, when the experiments were continued for many hours, the cooling was generally quicker during the last, owing undoubtedly to the animal being then fatigued, and its respiration becoming more feeble.—*(To be continued.)*

II.—A Case of Enlargement of the Brain, producing all the symptoms of Hydrocephalus; by Dr. Teller[*].

"Henrietta Zollner, almost five years of age, was of a somewhat uncommon physiognomy: the cranium also was too large in proportion, and the forehead much projecting. She was of a weak constitution, though without ever having been seriously ill; excepting that about nine months before, she had laboured under the hooping-cough, from which, within a few weeks, she was perfectly restored.

"She was taken ill on the 21st of June, but still ran about on that day and the succeeding one. On the 22d, however, she was always leaning her head on something or other, even on being carried about; she was also ill-humoured, and always dozing. At night, her rest was very unquiet: she often in her sleep raised her hand, particularly the left, towards her head; but even when in health, her sleep had been very uneasy. On the 25th, she was seized with a vomiting and diarrhœa; the stools were of a greenish colour and very offensive; what she vomited was also of a greenish colour, and of the consistence of mucus. An emetic was given, which operated once and stopped the vomiting, but the diarrhœa still continued. On the 29th, fever supervened, attended with great heat, and a quick pulse. Suspecting an hydrops ventriculorum cerebri, perhaps combined with worms, a vermifuge was prescribed, and afterwards the digitalis with extract of henbane. The 30th she was lethargic, and on being awakened, she threw her hands about, but did not reply to any questions, and groaned almost continually; the pulse was full, but not too quick, beating about ninety pulsations in a minute; the forehead felt remarkably hot, and the respiration seemed somewhat difficult. From the answers to the inquiries respecting other symptoms, commonly preceding hydrops cerebri, I could collect only that the child had been very sensible for her age.

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[*] *Hufeland's Journal, Nov.* 1815.

" Four leeches were ordered to be applied behind each ear, and the medicines above-mentioned to be continued. About 4 P.M. the condition of the patient was much worse; the pulse was small and quick, beating 125 pulsations in a minute: the colour of the face sallow, and the stupor so great that it was impossible to awake her. The leeches, which had been applied about noon, had bled much, and the orifices were still bleeding profusely. Sponges, dipped in vinegar, were directly applied, and a blister on the neck, with lotions of cold water on the head. About 5 P.M. the child was in great agony; the bleeding, in spite of the vinegar, had not entirely ceased. Decoct. levistic. with valerian powder, calomel, opium, and musk, were given; and the cold lotions were applied for a whole hour, without producing any effect. Spirit. aromat. camphorat. ph. P. as a wash for the whole body, and cold lotions upon the face, were ordered. About 7 P.M. some slight distortion of the muscles of the face appeared, and the patient expired.

" DISSECTION, ON THE FIRST OF JULY.

" 1. *The head:—the brain was found uncommonly large* for the age of the subject, but it was not surcharged with blood. The ventricles were of the usual extent, and did not contain any water: the plexus choroides were rather empty than surcharged with blood. Every thing else in the head appeared natural.

" 2. *The thorax:*—the lungs were quite sound, very pale, and deficient of blood; only a little spot on the left lobe was of the natural dark colour, and contained a little more blood than common: the heart was natural, but also defective of blood; even on opening the vena cava, very little blood issued.

" 3. *The abdomen:*—the intestines, were sound, but also uncommonly pale and void of blood; except the spleen, which

Fig. 1

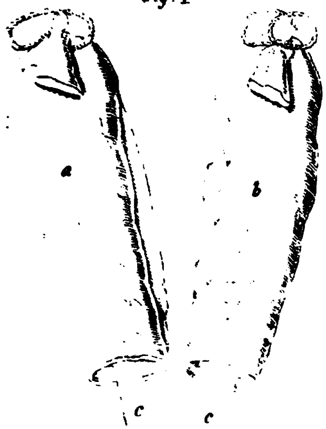
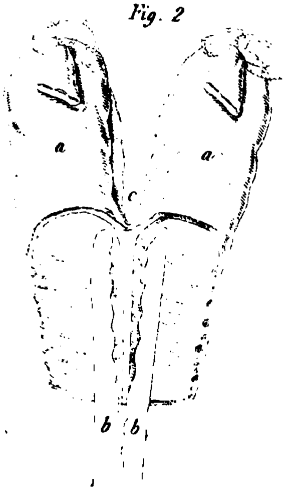


Fig. 2



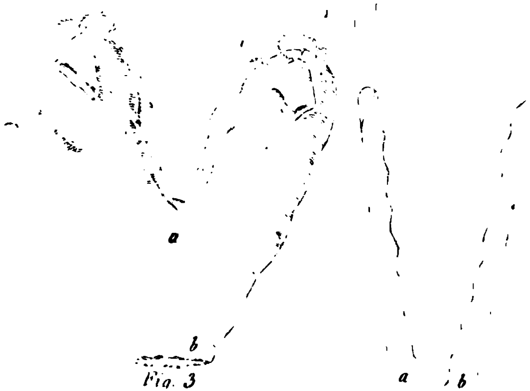


Fig. 3

Fig. 4

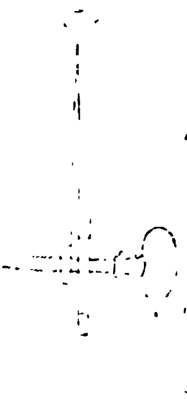


Fig. 5

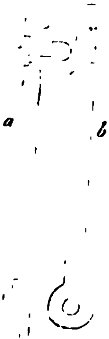


Fig. 7

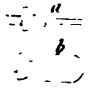
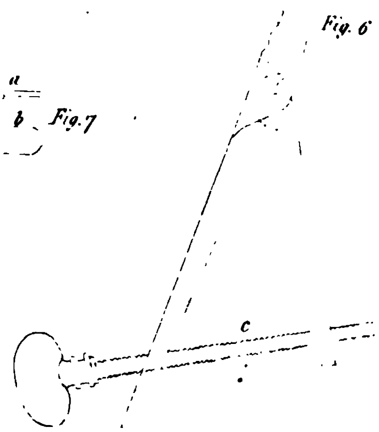


Fig. 6



For the London Medical Repository. Vol. 7. p. 426.

was in the usual state: the stomach, in proportion to the age, very large. No other morbid appearance was observed, except that some of the mesenteric glands were of a pretty large size, but neither indurated nor suppurating.

" *Note of Mr. Hufeland.*—On a future occasion I shall enlarge upon this disproportionate growth of the brain; a pathological condition not hitherto regarded; and which produces all the symptoms of Hydrocephalus; and, indeed, in my opinion, may be productive of it.

III.—IN our last Retrospect of the Progress of Medical Science*, we glanced at the very ingenious method which M. Dupuytren has invented of restoring the continuity of the intestine, in cases of *artificial anus* at the groin. We have lately been favoured, through the medium of our friend Dr. Granville, with a more particular account of the operation†, and with a sight of the plates with which M. Dupuytren means to illustrate his operation, for he has not yet published his description of it; and having grouped them into one plate, we hasten to present it to our readers.

DESCRIPTION OF THE PLATE.

Fig. 1, *a b*, represents a plan of the separate portions of the gut, into each orifice of which one of the legs of the forceps, fig. 4, is introduced; and the instrument then gradually closed, so as to bring the surfaces of the gut, where the legs touch, into contact, in which position they are retained by the screw at the extremity of the forceps.

Fig. 2, *a a*, the separate portions of the gut, which are here represented as united at *c*, the fore part being cut away to shew the place of conjunction: *b b*, the legs of the forceps, by the compression of which the adhesion was effected. On dividing the partition thus formed by a longitudinal incision, a communication is effected betwixt the two portions of the gut, and the external orifice being closed the continuity is complete.

Fig. 3. The two portions of the gut communicating with each other at *a*, while *b*, the external opening, still remains unclosed.

Fig. 4. The forceps with the legs closed, and retained together by the screw.

Fig. 5, *a*, the longer leg of the forceps, having a longitudinal opening in its extremity, to allow it to accommodate itself with the screw, at any degree to which the instrument may be opened: *b*, the shorter limb, the round opening in the end of which is a female screw in which the screw, *c*, (vide fig. 6,) works.

Fig. 6. Shews the position which the screw, *c*, assumes, when the legs, *a b*, are separated from each other.

Fig. 7, *a b*, the centre screws, by which the limbs of the forceps are kept together.

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* *Repository*, vol. vii. p. 64.

† *Ibid.* p. 158.

We are fully aware, that this description is to a certain degree imperfect, as the plates of M. Dupuytren, in our possession, have neither references nor description attached to them; but we conceive there is no surgeon, who is accustomed to look at plates, that will not readily understand the nature of the operation, from the representation which our sketch affords of it. As the experience of M. Dupuytren has demonstrated the practicability of his invention, it is certainly worthy the attention of British surgeons.

IV.—A Case of Enlargement of the Tongue, and its protrusion from the Mouth; by *M. Fréteau*, Physician at Nantes*.

"The publication of an extraordinary case is useful when its termination is fortunate and depends upon a peculiar mode of treatment. A circumstantial narrative of the disease is also requisite, in order that it may be again recognised, and the success of the practice properly appreciated. Under such circumstances, a collection of practical observations should be viewed as a precious repository, to which young men may resort in order to clear up the doubts that may harass them in difficult cases.

"To any one who has perused the Memoir of Louis† upon the Diseases of the Tongue, and the Report of Dr. Double‡ upon some cases of Glossitis, it may appear difficult to add any thing to the information contained in these excellent essays; as they enumerate fully the various causes which may produce the enlargement of the tongue, and its protrusion from the mouth. Among these causes, the introduction of some poison into the system, or the too powerful action of mercury, hold the first rank. Swelling of the tongue, however, has sometimes been produced by confluent small-pox, or other malignant fevers, by an arthritic or rheumatic humour, by phlegmonous inflammation, calculi contained in the substance of the tongue itself, and also the continued irritation occasioned by rugged points of the teeth.

"It ought never to forgotten, that in most of the extraordinary enlargements of the tongue, scarifications have almost always diminished its size and permitted its return into the mouth. In the case of Glossitis produced by poison, communicated by Dupont to the Academy of Surgery, the application of leeches and scarifications enabled an emetic to be exhibited; after which every thing went on well. Marcellus Donatus, Trincavellius, and Riviere, have recorded cases of enlargement of the tongue produced by the action of mercury. In a case related by the last mentioned of these writers, the frictions having been pushed to an extreme degree, produced an inordinate salivation, and a swelling of the tongue, which protruded more than four finger breadths from the mouth. Riviere employed bleeding, purgatives, and lotions, without obtaining the least benefit; but after having recourse to scarifications the disease was cured in a few days.

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* *Recueil Général de Médecine, &c.* tome. lvii. p. 286.

† *Mem. de l'Acad. de Chirurgie,* 5 vol. in 4to. p. 486.

‡ *Journ. Gen. de Médecine,* vol. xxviii. p. 251.

"In a case, analogous to the preceding, Job a Meekren, perceiving that all the means indicated, among others cupping on the nucha and blisters, produced no sensible amelioration, had recourse to scarifications which were followed by immediate relief*. Two other cases are related by M. Delamalle, in which scarifications were employed and quickly saved the patients. Joel Langolet, first physician of the Duke of Holstein, mentions a case of enlargement of the tongue, which was cured by the local application of leeches, and opening the venæ raninæ†. The enlargement of the tongue, however, and its protrusion from the mouth, induced Pimpernell, a distinguished surgeon of Paris, in 1658, to amputate the protruded portion; a practice condemned by Louis, who asserts, that two longitudinal deep scarifications would have cured the patient.

"We may conclude, from all the facts that have been mentioned, that the cases in which amputation of the tongue is necessary, are rare; and that, in general, scarifications and leeches are sufficient for reducing enlargements of the tongue. The following case, however, will be sufficient to prove, that these remedies have failed; and that the amputation of the protruded portion of the organ would have been resorted to, if it had not been superseded by a new method of treatment.

"On the first of May 1816, I received the following letter from M. Manceau, a surgeon at Montfauçon, a small village, eight leagues from Nantes:—'Will you have the goodness to come to this place to give your assistance in the treatment of a disease, as rare as it is obstinate. It is a considerable tumefaction of the tongue, which, for six weeks, has resisted all the means that have been employed by me, as well as those by Dr. Romagne, Dr. Breaupréau, and Dr. Cholet. This tongue hangs out of the mouth about four inches; is three inches in breadth, and one inch in thickness. The weakness of the patient increases every day, owing to the excessive loss of saliva and the small quantity of nourishment which she can take, as

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[*] *Jobi a Mukren Obs. Med. Chirg.* cap. xxii. *De tumore gravi linguæ.*

[†] *Mem. de l'Academie de Chirurg.* tome v. p. 514.

she is able to swallow only broth and milk by means of a reed. A great number of leeches have been applied round the neck and upon the tongue itself; the organ has been deeply scarified from the root to the point, but without success. I am of opinion, that the only resource we have is amputation, as the enlargement partakes somewhat of the nature of carcinoma; and a sanious matter is continually distilling from the tumour. I beseech you to bring the instruments necessary for the operation.'

"As it was impossible for me to go to Montfauçon, and the case appeared to me to be too difficult to admit of a hasty decision, I wrote to M. Manceau to persuade the patient to accompany him to Nantes. Having agreed to this proposal, she made the journey on horseback, the tongue being contained in a bag. On her arrival, I assembled those of my brethren who more particularly confined their practice to surgery. The general opinion was, that the disease could only be relieved by the amputation of that portion of the tongue which protruded from the mouth; the diseased state of it having existed for forty days, in spite of the employment of leeches, vesicatories, and various other means, and above all, of deep scarifications.

"Although, admitting the necessity of this extremity, yet I felt disposed to delay the operation. Some plan for performing it was necessary to be devised; but instead of allowing this to occupy my thoughts, I dreamt only of the means of evading the amputation; and I conceived that I was sufficiently authorised in acting in this manner by the particular state of the tongue, which did not appear to me to be really carcinomatous. In effect, its enlargement might be compared to that state which the glans sometimes acquires in paraphymosis; an analogy which led me to conceive the idea of compressing this tongue: and the plan was approved of by Dr. Rouillard. We examined together the diseased part with a scrupulous attention, and were convinced that the teeth of both jaws exercised an immediate and continued action upon the tongue, and retained it in some degree in a state of strangulation. In endeavouring to ascertain accurately the state of the inferior surface of the organ, we perceived that the incisores were forced into it, and that they as well as the lower lip were everted. In other respects, the portion of the tongue within the mouth appeared in a natural state, except that there was a slight induration on the right side.

"The patient was a young woman twenty-four years of age, very timid; and who, dreading exceedingly the operation, earnestly inquired whether the cure could not be effected by some other means. She had been married for a year, and had been irregular in the catamenia for six months without any evident reason.

"If even a primary cause*, which could not be traced without difficulty, could have induced the swelling of the tongue and its protrusion, it was evident that the continual pressure of both jaws had operated in a secondary cause, so as to prevent the portion which was out of the mouth from being disengaged and returned. These circumstances diverted my attention altogether from amputating, and led me rather to consider by what method the strangulation of the tongue could be overcome and its bulk diminished: thence, by taking off the permanent and troublesome action of the jaws upon that organ, to soften and reduce the protruded part by a uniform compression of the whole. Such was the method of cure which I meditated, and which appeared to me likely to succeed, if the execution was not interrupted by insurmountable difficulties.

"Being assisted by Dr. Rouillard, and M. Prieu, House-Surgeon of the Nantes Hospital, I began the compression, having previously extracted the four incisores of the lower jaw, which were, as I have already stated, everted, out of their sockets, moveable, and embedded in the tongue, which was constantly irritated by them. As soon as the tongue was freed from these sources of irritation, I grasped it in my hand, and held it tight for some minutes. This momentary compression produced a slight change in its flattened form, and rendered it rounder and more pliable. I next applied to it, as near as possible to the opening of the mouth, some turns of a small elastic silk bandage; of which I employed at first five ells, and directing each turn of the bandage with the point of a probe, I succeeded in covering nearly the whole of the tongue: after which, the protruded part, already reduced by the strong compression applied to it, seemed visibly diminished in bulk. This first bandage was covered with three plates of elastic gum, slightly curved at one of their extremities. Two of these plates† were put on the sides of the tongue, and the third placed upon its upper surface, and pushed into the mouth, to preserve the tongue from the action of the teeth of the upper jaw, whilst the union of the whole formed a complete case for the tongue, which was kept in its place by some fresh turns of the silk bandage.

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* There was some reason for believing that a mercurial remedy had been administered during cold and damp weather, with the view of removing pimples.

† These plates were formed of longitudinal sections of the instruments, which are called *releveurs de l'anus*, turned inside out, so as to have their concave smooth surface applied next the tongue, whilst the roughness of their convex surface was favourable for the application of a second bandage.

"The application of this apparatus, far from rendering the situation of the patient more painful, on the contrary assuaged her sufferings; which may be readily conceived, when it is considered that the tongue was no longer strangled betwixt the jaws. The patient was capable of taking her usual nourishment through the reed; and the tongue was retained in its place by a pretty long stay, fixed at the upper and back part of the head.

"The bandage remained in its place for forty-eight hours, at the end of which it became relaxed, and was readily removed in one piece. I found the tongue pliable, soft, and diminished to half of its former bulk. It was now gently pushed into the mouth, and entered without the smallest difficulty. A change so sudden, and so fortunate, produced the greatest astonishment in two venerable ecclesiastics who were present, and who had been so frightened by the hideous appearance of the tongue, that they exclaimed, a miracle had been wrought in favour of their niece. I soon explained to them in a simple and natural manner, the phenomenon which excited their surprize, by remarking, that during forty-eight hours, I had suspended the operation of the causes that occasioned the strangulations of the tongue, and during that time its enlargement had been restrained by very powerful mechanical means. Such are the wonderful effects of pressure methodically exerted, in a great number of diseases*. I acknowledge that I had been myself so far from expecting this sudden reduction of the tongue, that I had prepared means for renewing the compression. A chin cloth was now applied, not only with the view of raising the lower lip, which still remained everted, but to comfort the patient, who dreaded exceedingly the reprotrusion of the tongue.

"The tongue thus replaced in the mouth, gained in breadth what it had lost in length, so that for some days the patient bit it upon the sides whenever she closed the jaws: but by the assistance of tonic gargles and scarifications, it soon diminished in bulk, and regained its mobility. The left side, however, remained painful, and still presenting on the fourth day after its replacement, a kind of induration, I raised it in order to examine its under surface, and perceived that the third of the molares of the same side, which was loosened by the loss of the neighbouring teeth, and which was full of asperities, had been forced into the tongue, and produced a deep ulcer in it. I extracted this tooth without any difficulty, after which every thing went on well. On the third day after the arrival of the patient from Nantes, the tongue was entirely reduced; on the fifth she was able to swallow soup, and could drink from a glass; on the eighth she left off the use of the chin stay; on the twelfth was capable of performing all the movements of mastication; and on the fifteenth, returned home in perfect health.

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* The original paper has a long note illustrative of the effects of compression, in various diseases, which it is unnecessary to translate.

"It appears then, that from the absence of the catamenia, and the employment of some mercurials, an enlargement of the tongue had taken place, sufficient to protrude it from the mouth: that the tumefaction was afterwards kept up by the roughness of one of the molares which had pierced the tongue; and, that the continued pressure of the incisores and the caninæ of both jaws maintained it in this position: hence, in every case, it is requisite to attend to the strangulation of the tongue, before deciding on amputation. The advantages which were obtained from the compression exerted upon the protruded portion of the tongue, whilst at the same time the strangulation was reduced, led me to think that the simultaneous employment of these means would concur to dissipate the secondary effects of tumefaction, and set aside all necessity of amputation.

"If, on this principle, compression had been applied to the enlargement of the tongue of Mirault's patient*, the action of the jaws being at the same time lessened, it may be presumed, that it might have prevented the frightful lessening of the tongue, and the necessity for the amputation. Every operation which is not absolutely necessary ought to be proscribed."

PART V.

MEDICAL AND PHYSICAL INTELLIGENCE.

I.—SOCIETIES.

Royal Society.—On Thursday, Feb. 27, a paper, by Sir E. Home, Bart. was read, giving an account of a number of fossil bones of the rhinoceros found by Mr. Whitby, in a cavern in a lime-stone rock on the south side of the Catwater, Plymouth. This lime-stone is decidedly transition. The cavern was 45 feet long, and filled with clay, and had no communication whatever with the external surface. The bones were remarkably perfect specimens. They were all decidedly bones of the rhinoceros; but they belonged to three different animals. They consisted of teeth, bones of the spine, of the scapula, of the fore legs, and of the metatarsal bones of the hind legs. These fossil bones were analysed by Mr. Brande. He found one specimen composed as follows:—Phosphate of lime, 60—Carbonate of lime, 28—Animal matter, 2—Water, 10. The teeth, as usual, contained a greater proportion of phosphate of lime than the other bones. These bones were remarkably clean and perfect, and constitute the finest specimens of fossil bones ever found in this country. On Thursday, March 6, a paper by the Rev. Francis Hyde Wollaston was read, describing a thermometer constructed by him for determining the height of mountains instead of the barometer. On Thursday, March 13, part of a paper by Mr. Marshall on the *Laurus Cinnamomum*, or cinnamon-tree, was read. On Thursday, March 20, Mr. Marshall's paper on the Laurus Cinnamomum was continued. He took a review of the descriptions of this plant given by preceding botanical writers, and pointed out numerous mistakes into which they had all fallen, from not being aware of the meaning of the different names given to the plant and its varieties by the natives of Ceylon. Linnæus gave to his laurus cassia the properties of the laurus cinnamomum; and Thunberg, the last botanist who describes this tree, does not correct the errors of his predecessors, and probably was not aware of their existence. The cinnamon-tree is cultivated in four different places in Ceylon, and it grows wild abundantly in the jungles. The cinnamon obtained from the cultivated places amounts to rather more than 2000 bales, and that collected in the jungles is about an equal quantity. What is called *cassia* buds is the receptacle and unripe seeds of the laurus cinnamomum.

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* In the patient of Mirault, as in the woman Bouillé, there was a continual sanious matter distilling from the tongue; the incisores of the lower jaw also were everted, and sunk into the tongue, and formed in both the principal cause by which the diseased state was kept up.

Linnæan Society.—On Tuesday, March 4, a paper was read, communicated by Dr. Leach, from the manuscripts of the late Col. Montague, describing a new genus of vermes distinguished by the name of *amphira*. Five British species were described. They are all inhabitants of the sea, distinguished by long tentaculæ, organs of respiration, and substances which answer the purposes of feet.—At the same meeting, a paper by T. A. Knight, Esq. was read, containing a vindication of his hypothesis respecting the cause why the radicles of plants vegetate downwards, and the stems upwards, against the attack made upon it by the Rev. Patrick Keith in the last volume of the Transactions of the Linnean Society. Mr. Knight admits that, if his hypothesis had been supported only in the way in which it has been represented by Mr. Keith, the refutation of it would have been very easy: but Mr. Keith, he affirms, has omitted the principal arguments which he had advanced in support of it. Mr. Knight then proceeded to give his argument in favour of the hypothesis which he advanced, and shewed the omissions of which Mr. Keith had been guilty. He next adverted to the facts which Mr. Keith has brought forward in opposition to Mr. Knight's hypothesis, and gave an explanation of them. He concluded his paper by some observations on Mr. Keith's own hypothesis, *instinct*, which he considered as unsatisfactory and unmeaning.—On Tuesday, March 18, a paper by Sir James Edward Smith, Pr. L. S. was read, elucidating some obscurities in the genus *tordilium*. The author shews that the species apulum and officinale have been frequently confounded by preceding botanists.—At the same meeting was read a description, by Dr. Leach, of the Wapiti deer, from the banks of the Missouri, four of which are at present exhibiting in the King's Mews, London. The animal is gentle, docile, and elegant. It is said to be domesticated in America by the natives. Mr. Taylor is of opinion that it might be used with advantage in this country in many cases as a substitute for horses.—At the same meeting a letter from Sir John Jamieson to Mr. Macleay was read, giving an account of a striking peculiarity in the ornithorinchus paradoxus of New Holland. Sir John Jamieson, who is at present in New Holland, shot one of these animals with small shot, and his overseer went and picked up the wounded animal. It ran one of its spurs into his hand. In a short time his arm swelled, his jaw became clenched, and he exhibited all the symptoms of persons bitten by venomous serpents. The symptoms yielded to the external application of oil and the internal of ammonia; but the man suffered acute pain, and had not recovered the use of his arm in a month. On examining the spur, it was found to be hollow; and on pressing it a quantity of venom was squirted out. For what purpose the animal is supplied with this venom does not appear, though probably it is to wound and destroy its prey.

Medical Society of London.—On the 8th of March last, the annual oration was delivered by Mr. Stevenson, of Great Russel-street. It commenced by some just compliments to the memory of the late Mr. Royston, who had been appointed by the Society to perform this duty, which his decease devolved upon Mr. Stevenson, who had undertaken it at a very short notice. The more particular subject of the oration was embraced under the three following heads:—1st. The natural necessity and established use of the Medical Profession. 2d. The most advantageous mode of cultivating it; both for the purposes of its advancement and for the public welfare. And 3d The pathology of particular doctrines of practice. The orator took an opportunity of descanting on the usefulness of the Medical Society, and urged the necessity of its being supported with proper spirit and attention by its members; properly observing, that, "by the mutual interchange and collision of opinions, knowledge is elicited and truth established." He paid a brief but impressive tribute to the memory of the late Doctor Lettsom, for his personal services and liberality to the establishment, which is the eldest of its kind in this metropolis. He traced with a rapid but spirited pencil, a sketch of the rise and progress of the Medical Science; and, adverting to the causes of its advancement, pointed out, in forcible language, the value of morbid anatomy, to the zealous cultivation of which he imputed most of the great modern improvements. He took occasion to condemn the passion, which he thinks has lately prevailed, of generalizing diseases, and referring them, however distinct their natures and symptoms, to one common origin; and, in glancing over the doctrines of the schools, noticed some of the leading opinions of the present period.

A METEOROLOGICAL TABLE,

From the 21st of March to the 20th of April 1817,

KEPT AT RICHMOND, YORKSHIRE.

230 Miles NW from London.

D.	Barometer. Max.	Barometer. Min.	Therm. Max	Therm. Min.	Rain Gage.	Winds.	Weather.
21	29 57	29 55	34	24		NW..N..	1 Sun...
22	29 63	29 56	36	30		SE..	1 Sun.. 3 Cloud..
23	29 51	29 44	40	35		SE..SW..	1 Cloud.. 4 Mn..
24	29 36	29 36	46	37		SW...W.	1 Sun.. 3 Sh.
25	29 58	29 33	44	36		NW..	1 Sun...
26	29 62	29 28	48	32	03	SW....W..	1 Cy... 2 Sh. 3 Sun...
27	29 72	29 49	42	34		WNW..	1 Sun....
28	29 45	29 16	48	38		SE..SW...	1 Sun..
29	29 48	29 44	51	39		SW....	1 Sun...
30	29 89	29 56	49	39	12	SW...	1 S... 3 Cy.. 4 Sh.& Mn...
31	30 03	30 01	47	41		W..	1 Sun... 4 Cloud..
1	30 06	30 01	62	39		SW...	1 Sun...
2	30 06	30 04	62	39		Vble.	1 Sun...
3	30 15	30 14	54	29		NNE.	1 Sun... 3 Misty..
4	30 09	30 01	50	29		SE.	1 Sun....
5	30 15	30 03	58	39		SE.	1 Sun... 3 Cloud.
6	30 24	30 18	50	28		NE..	1 Sun...
7	30 05	29 90	50	34		WSW..	1 Sun...
8	29 66	29 59	56	34		SW...W..	1 Sun... 3 Cy.. 4 Stal....
9	29 71	29 66	46	24		NW..	1 S... 3 Cy.. 4 Sh of Sno.
10	29 95	29 90	41	22		NNW..	1 Sun...
11	29 82	29 73	51	33		NW..W..	1 Sun.. 3 Cy.. 4 Starl...
12	29 75	29 70	56	44		WNW..	1 Sun.. 3 R. 4 Starl..
13	29 80	29 75	60	44		WNW..	1 Sun..
14	29 67	29 62	63	45		Vble.WNW...	1 Sun..
15	29 50	29 43	60	38	01	WbN...	1 Sun... 4 Rain.
16	29 87	29 79	49	31		NW...	1 Sun.. & Sh of snow.
17	29 99	29 97	47	26		WNW..	1 Sun. 4 Starl....
18	30 05	30 03	53	35		W...	1 Sun...
19	30 10	30 10	61	45		WNW..	1 Sun... 3 Cloud..
20	30 12	29 99	61	43		N.NE.	1 3 Sun.. 2 4 Cloud..

The quantity of rain during the month of March was 1 inch 01-100ths.

The weather, this last period, has been remarkably dry; frequently severe frost in the night, and much sunshine in the day; there were occasionally light showers of rain or snow, but seldom sufficient to affect the rain gage.

Observations on Diseases at Richmond.

Catarrhal complaints have been prevalent, but upon the whole the district was healthy. Cases of the following disorders have been under treatment: Asthma, Cynanche Tonsillaris, Diarrhoea, Febris Typhoides (one case), Leucorrhœa, Menorrhagia, Obstipatio, Phthisis Pulmonalis, Podagra, Rheumatismus Acutus, Urticaria.

METEOROLOGICAL TABLE FOR LONDON,

From the 19th of MARCH to the 20th of APRIL 1817,

By Messrs. HARRIS & Co.

Mathematical Instrument Makers, 50, High Holborn.

M.	D.	Therm.			Barom.		Rain Gauge.	De Luc's Hygrom. Dry.		Damp.		Winds.		Atmo. Variation.		
	20	33	37	27	29^{5}	29^{8}				1	1	W	NNW	Fine	Snw	Clo.
	21	31	38	28	29^{9}	29^{9}	.03	0	0	0	0	NW	NNW	Fine	—	Clo.
	22	30	35	33	29^{9}	30				1	1	N	NE	Fine	—	Clo.
◐	23	39	43	42	30	30				1	2	SE	S	Fine	—	—
	24	43	48	45	29^{6}	29^{6}				2	8	S	SSW	Fine	—	Clo.
	25	46	51	42	29^{6}	29^{9}				9	10	SSW	SE	Rain	Fine	Clo.
	26	44	50	37	30	29^{9}				9	9	S	WNW	Clo.	—	—
	27	40	48	39	30^{1}	30^{2}				6	2	NNW	WSW	Fine	—	—
	28	42	45	42	30	30				2	7	S	SSW	Clo.	—	—
	29	47	53	43	29^{6}	29^{8}				7	9	S	SW	Clo.	—	Fine
	30	50	55	45	30^{1}	30^{3}				12	10	S	SSW	Fine	—	—
○	31	47	49	44	30^{4}	30^{4}				9	2	SSW	SE	Fine	—	—
	1	49	55	42	30^{6}	30^{4}				2	2	SSE	ESE	Fine	—	—
	2	44	54	40	30^{5}	30^{4}				2	2	ENE	ENE	Fog	Fine	—
	3	46	55	42	30^{4}	30^{4}				1	1	NE	NE	Fine	—	—
	4	45	53	42	30^{4}	30^{3}		0		0	1	NNE	NNE	Fine	—	—
	5	43	47	38	30^{4}	30^{4}				1	2	NE	E	Fine	—	—
	6	42	45	39	30^{4}	30^{4}		0		0	1	NE	NE	Fine	Clo.	—
	7	43	47	40	30^{5}	30^{4}				1	2	ENE	ENE	Fine	—	—
●	8	42	48	41	30^{1}	30				2	2	SE	SW	Fog	Fine	Clo.
	9	43	47	32	30	30^{1}			0	2	0	WSW	W	Fog	Fine	—
	10	34	40	30	30^{1}	30^{5}		2	2			NW	NW	Fine	—	—
	11	33	43	39	30^{5}	30^{5}		2	1			NNW	NW	Fine	—	—
	12	43	49	38	30^{7}	30^{6}		1	1			NW	W	Fine	—	—
	13	41	49	46	30^{2}	30^{3}		0		0	8	WNW	W	Clo.	Rain	Clo.
	14	47	55	47	30^{2}	30^{5}	.05			4	8	W	W	Fine	—	—
	15	49	58	50	30	29^{9}				4	4	W	NW	Fine	—	—
	16	47	49	39	30^{1}	33^{4}		0	1	9		NNW	Nva	Rain	—	Clo.
◑	17	43	49	39	30^{3}	30	.07	2	1			N	N	Fine	—	—
	18	43	49	38	30^{4}	30		1	2			NNE	W	Clo.	—	—
	19	45	53	44	30^{5}	30^{4}		1	0		0	Nva	Nva	Fine	—	—

The quantity of Rain fallen in the month of March is 1 inch 12-100ths.

N.B. From an error, the figures in the rain gauge column in the last table were omitted, but the general result was correctly stated.

BILL OF MORTALITY *from March* 18, *to April* 22, 1817.

		Mar. 25.	April 1.	April 8.	April 15.	April 22.	
CHRISTENED.	Males	186	238	292	241	192	
	Females	184	194	249	252	178	
		370	432	541	493	370	Total, (five weeks) 21[illegible]9.
BURIED	Males	191	200	164	165	149	
	Females	179	190	199	196	156	
		370	390	363	350	305	Total, (five weeks) 1787.
OF WHOM HAVE DIED	Under 2 Years	98	86	99	101	89	
	Between 2 and 5	39	42	41	27	34	
	5 and 10	11	16	8	15	14	
	10 and 20	14	14	17	21	9	
	20 and 30	24	31	20	16	16	
	30 and 40	40	33	28	31	32	
	40 and 50	41	34	25	29	36	
	50 and 60	31	30	34	40	29	
	60 and 70	30	38	34	33	28	
	70 and 80	26	27	19	24	25	
	80 and 90	13	12	14	12	8	
	90 and 100	3	2	4	1	2	
SMALL POX		14	18	8	10	14	

Total of Small Pox...*(five weeks)*...64.

A REGISTER OF DISEASES

Between MARCH 20th, and APRIL 19th, 1817.

DISEASES.	Total.	Fatal.	DISEASES.	Total.	Fatal.
Abortio	13		Epilepsia	5	2
Abscessio	30	1	Epistaxis	5	
Acne	1		Erysipelas	17	
Amaurosis	2		Erythema *læve*	5	
Amenorrhœa	31		——— *papulatum*	6	
Anasarca	25	1	Febris *intermittens*	15	
Aneurisma	2	1	—— *catarrhalis*	45	
Anorexia	1		—— *Synocha*	10	
Aphtha *lactentium*	14		—— *Typhus mitior*	11	
——— *anginosa*	2		—— *Typhus gravior*	3	1
Apoplexia	4	1	—— *Synochus*	20	1
Ascites	5	2	—— *Puerpera*	8	
Asthenia	32		—— *remit. Infant*	16	
Asthma	65	8	Fistula	3	
Asphyxia	1		Fungus	1	
Atrophia	7		Furunculus	4	
Bronchitis *acuta*	9	1	Gastritis	2	1
——— *chronica*	12	1	Gastrodynia	33	
Calculus	1		Gonorrhœa	24	
Caligo	1		Hæmatemesis	2	
Cancer	3	1	Hæmoptöe	9	1
Carbunculus	1		Hæmorrhois	23	
Cardialgia	25		Hemiplegia	2	
Carditis	2	1	Hepatalgia	1	
Catarrhus	86		Hepatitis	16	
Cephalalgia	28	1	Hernia	8	
Cephalæa	8		Herpes *Zoster*	7	
Chlorosis	12		——— *circinatus*	1	
Chorea	6		——— *præputialis*	1	
Cholera	12		Hydrocele	1	
Colica	27		Hydrocephalus	5	4
—— *Pictonum*	3		Hydrothorax	4	3
Convulsio	13	3	Hypochondriasis	5	
Cynanche *Tonsillaris*	36		Hysteria	7	
——— *maligna*	4		Ictetus	6	
——— *Trachealis*	1		Impetigo *figurata*	2	
——— *Parotidea*	6		——— *sparsa*	1	
——— *Laryngea*	1		——— *scabida*	6	
Diabetes	1		Ischias	1	
Diarrhœa	67	1	Ischuria	5	
Dysenteria	15	1	Lepra	2	
Dyspepsia	65	1	Leucorrhœa	13	
Dyspnœa	20		Mauia	6	1
Dystocia	2		Melancholia	7	
Dysopia	1		Menorrhagia	23	
Dysuria	7		Miliaria	2	
Ecthyma	4		Morbi *Infantiles**	100	4
Eczema	3		Morbi *Biliosi*†	79	
Enteritis	8	1	Nephralgia	1	
Enterodynia	26		Nephritis	1	

DISEASES.	Total.	Fatal.	DISEASES.	Total.	Fatal.
Neuralgia	1		Pyrosis	9	
Obstipatio	19		Rachitis	2	
Odontalgia	23		Rheumatismus *acutus*	43	
Opththalmia	20		——— *chronicus*	41	
Otalgia	2		Roseola	1	
Palpitatio	3		Rubeola	12	
Paracusis	2		Scabies	84	
Paralysis	8		Scarlatina *anginosa*	2	1
Paronychia	6		Scirrhus	1	
Pemphigus	4		Scorbutus	2	
Peripneumonia	5		Scrofula	23	
Peritonitis	7		Spasmi	6	
Pernio	6		Splenitis *acuta*	1	
Pertussis	23		——— *chronica*	1	
Phlegmasia *dolens*	4		Strictura	13	
Phlogosis	10	15	Strophulus *intertinctus*	5	
Phthisis *Pulmonalis*	35		Sycosis *menti*	1	1
Plethora	4		Syncope	2	
Pleuritis	27		Syphilis	49	4
Pleurodyne	3	3	Tabes Mesenterica	10	
Pneumonia	22		Tic Doloreux	1	
Podagra	12		Tremor	1	
Porrigo *larvalis*	12		Vaccinia	82	
——— *decalvans*	2		Varicella	13	7
——— *scutulata*	1		Variola	32	
——— *favosa*	3		Vermes	39	
Prolapsus	1		Vertigo	23	
Prurigo *mitis*	1		Urticaria *febrilis*	12	
——— *senilis*	1		——— *evanida*	4	
Psoriasis *guttata*	12		Total of Cases	2164	
——— *inveterata*	4		Total of Deaths		75

* *Morbi Infantiles* is meant to comprise those Disorders principally arising from dentition or indigestion, and which may be too trivial to enter under any distinct heads; *Morbi Biliosi*, such Complaints as are popularly termed *bilious*, but cannot be accurately classed.

Observations on Prevailing Diseases.

The cold easterly winds which have prevailed the greater part of the mouth, have kept up the number of catarrhal affections. This attack has been but seldom accompanied with cough; although it has occasionally supervened. They were readily relieved by moderate venesection, purging, and the use of the pediluvium, at the same time steaming the head, by holding it for a quarter of an hour over a basin of boiling water immediately before getting into bed.

Severe cases of *Pertussis* very rapidly yielded to the continued use of the extract of Belladonna, gentle purging, a vegetable diet, and regulated temperature. After the hoop ceased, soda and cinchona were exhibited under which the strength was soon recruited, and the disease completely removed. The two of the slightest of the cases were cured in ten days. In three of the cases measles supervened, and are now running their course.

Typhus mitior is still kept up by infection in a particular district, where the necessary separation cannot be obtained.

Affections dependant on *Asthenia* and *Gastrodynia*, as well as *Enterodynia*, occur too frequently among the poor, suffering from low living, to allow their cases to be given numerically. In the last month many cases of diseased bowels in suckling children occurred, dependant, as has appeared on examination, on the want of nourishment obtained by the mother. Many instances of impetiginous eruptions have occurred among the poor, which have been with difficulty distinguished from *Scabies*.

NOTICES OF LECTURES.

Dr. Davis will commence his First Summer Course of Lectures on the Theory and Practice of Midwifery, and on the Diseases of Women and Children, on Tuesday, the 20th of May.

Mr. Thomson will commence his usual Course of Lectures on General and Medical Botany, about the third week in this month.

MISCELLANEOUS.

His Royal Highness the Duke of York has been pleased to appoint John Stevenson, Esq. of Great Russell Street, his Surgeon-Oculist, and Aurist.

LITERARY NOTICES.

In the press, and will speedily be published, an Experimental Inquiry into the Laws of the Vital Functions; with some Observations on the Nature and Treatment of Internal Diseases. By A. T. Wilson Philip, M.D. F.R.S. &c. In part re-published from the Philosophical Transactions; with the Report of the National Institute of France on the Experiments of M. le Gallois, and Observations on that Report.

In the press, the Consulting Surgeon, or Practical Essays, Cases, and Operations, illustrating the most important Surgical Diseases. By John Bell, Edinburgh.

Mr. Parkinson has ready for the press an Essay on the Shaking Palsy.

MONTHLY CATALOGUE OF BOOKS.

A Statement of Circumstances connected with the Apothecaries' Act, and its Administration. By G. M. Burrows, M.D. F.L.S.

Observations on the West-India Islands, Medical, Political, and Miscellaneous. By John Williamson, M.D. 2 vol. 8vo.

A Physiological System of Nosology, with a corrected and simplified Nomenclature. By John Mason Good, F.R.S. &c. 8vo.

Canine Pathology, or a full Description of the Diseases of Dogs, with their Causes, Symptoms, and Mode of Cure. By Delabere Blaine. 8vo.

NOTICES TO CORRESPONDENTS.

Several Communications *are received.*

Many circumstances connected with the Administration *of the* Apothecaries' Act *have occurred, which concerned the public welfare, and were of high interest to one branch especially of the Medical Profession, but which, for peculiar reasons, could not be detailed. Those reasons have now ceased. The subject, however, could not be introduced into the* Repository, *without very materially abstracting from those scientific objects to which its pages have hitherto been devoted. The* Editors *never intend to exclude matter from the* Intelligence Department, *which, although not practically instructive, yet relates to professional views: and they flatter themselves that, in this respect, they have amply evinced the truth of this remark. In affairs personally affecting themselves, they have ever been particularly careful not to obtrude: therefore, on an occasion which has recently taken place, although the interests of the medical public are as much affected as that of* Dr. Burrows, *yet he has preferred publishing and annexing a* Statement, *and presenting it to the* Subscribers, *at his own cost, rather than occupy any portion of the* Repository.

THE
LONDON MEDICAL
REPOSITORY.

No. 42. JUNE 1, 1817. Vol. VII.

PART I.

ORIGINAL COMMUNICATIONS.

I.

Primary Elements of Disordered Circulation of the Blood. By Whitlock Nicholl, M.D. Ludlow, Salop; Member of the Royal College of Physicians, in London.

i.—Blood flows from the heart to every part of the body.

ii.—The heart by the contraction of its ventricles forces the blood contained in them into the arteries.

iii.—Arteries are conical tubes, having the bases of their cones turned towards the heart.

iv.—Arteries are supplied with nerves, and are accompanied by nerves throughout their course.

v.—Arteries have various terminations.

vi.—Some of the minute branches of arteries terminate on surfaces, forming what are called exhalant vessels, which pour out a fluid or vapour.

vii.—Some of the branches of arteries terminate in glandular or secreting structures.

viii.—Many of the arteries terminate by continuity of canal in minute vessels, which are called capillaries, and these terminate by continuity of canal in veins.

ix.—Some arterics terminate in cells or sinuses, from which veins arise.

x.—Veins are conical tubes, having the bases of their cones turned towards the heart.

xi.—Veins terminate at the heart.

xii.—The capillaries then unite the apices of two cones.

xiii—The blood sent by the contraction of the ventricles of the heart into the arteries (ii) is then variously distributed.

xiv.—A portion of the blood sent to arteries passes off by the exhalants (vi).

xv.—Part of the blood poured into arteries being sent to secreting structures (vii) which separate their several secretions from it, a portion of the blood so sent returns by veins to the heart, as blood from which the secretion has been abstracted; the other portion, which is the secretion so abstracted, passes off by its proper duct or outlet.

xvi.—Part of the blood runs round the circle of arteries, capillaries, and veins, without interruption from its departure from the heart to its return thither (viii. xi).

xvii.—It appears then that the whole of the blood which is sent from the heart into the arteries does not return to the heart (xiv. xv).

xviii.—As less blood is restored to the heart than is poured out by it, in consequence of a portion of the blood being passed off by the exhalants and by the ducts or outlets of secreting structures (xiv. xv. xvii.), it follows that the diminution of the quantity of blood restored to the heart will be as the quantity poured off by the exhalants and by such ducts or outlets; the greater the quantity poured off, the greater the diminution; and vice versâ.

xix.—As a portion of the blood is continually abstracted from the mass of circulating blood, it follows that, unless some means of supply be furnished to make good the loss, the blood would be lessened in quantity after every contraction of the heart.

xx.—A fresh supply is constantly furnished to the blood by the absorbent vessels.

xxi.—If the quantity of supply furnished by the absorbents (xx) be less than the quantity poured off (xiv. xv. xix), the mass of blood will of course be lessened.

xxii.—If the quantity of supply furnished by the absorbents (xx) be greater than the quantity poured off (xiv. xv. xix), the mass of blood will of course be increased.

xxiii.—It is easy to conceive many different combinations of greater or less expenditure of blood (xiv. xv) with greater or less supply from the absorbents (xx. xxi).

xxiv.—The force with which the ventricles of the heart contract may be increased, or it may be diminished.

xxv.—The frequency with which the ventricles of the heart contract may be increased, or it may be diminished.

xxvi.—The force of the contractions may be increased while the frequency remains unaltered.

xxvii.—The force may be increased while the frequency is diminished.

xxviii.—The force may be increased, and the frequency may be also increased.

xxix.—The force may be diminished while the frequency remains unaltered.

xxx.—The force may be diminished while the frequency is also diminished.

xxxi.—The force may be diminished, the frequency being increased.

xxxii.—The heart has a circulating system of its own for its own peculiar use, consisting of the coronary arteries and vein; so also have the arteries a system of arteries and veins for their own use, which have been termed vasa vasorum, or arteriæ et venæ arteriarum.

xxxiii.—The ventricles of the heart contracting upon the blood contained in them (ii), give to the blood an impulse which is termed the momentum of the blood.

xxxiv.—Arteries are endued with a power whose tendency is to preserve a cylindrical form of the vessel, resisting efforts which may be made to lessen the calibre of the artery, and resisting also efforts made to distend the tube beyond a certain extent, such power being named the elasticity of arteries.

xxxv.—If less than the usual quantity of blood be sent to an artery, the artery will be proportionably reduced in calibre; and if no blood be sent to an artery, such artery will be converted into an impervious cord: an artery then is endued with a power whose tendency is to contract, and by so doing to diminish or to obliterate the passage through the vessel; this power Dr. Parry calls the tonicity of an artery.

xxxvi.—Now the momentum of the blood (xxxiii) having a tendency to keep open a passage through the arteries, it appears that it is assisted in its endeavours to do so (within certain limits) by the elasticity (xxxiv), but is opposed by the tonicity (xxxv).

xxxvii.—The calibre of an artery then and the quantity of blood contained in it are regulated by these three powers, viz. the momentum of the blood, and the two powers residing in the artery, namely, its elasticity and its tonicity.

xxxviii.—The momentum of the blood will be as the force or as the frequency of the heart's action, or as these combined, as the quantity of blood in the system, and as the resistance which the blood meets with in its course.

xxxix.—The heart, the blood, and the arteries, being in a healthy and natural state, the three powers (xxxvii) are so balanced as to keep a certain quantity of blood in the arteries.

xl.—If either of the three powers (xxxvii) be increased or be diminished, the equilibrium (xxxix) will be destroyed, and the artery will contain a greater or a less share of blood than is natural.

xli.—If no blood be sent to an artery, such artery will be so contracted as to become impervious (xxxv); the tonicity of an artery then is superior to its elasticity, when the elasticity is not assisted (xxxvi) by the momentum of the blood.

xlii.—As the exertion of the power of tonicity is the greatest when no blood is sent to an artery (xxxv), it is plain that the contraction of an artery is not produced by what has been called the stimulus of the blood.

xliii.—The smallest diminution of the momentum of the blood is followed by a proportionate increased exertion of the power of tonicity; the natural momentum aided by the elasticity just balances the tonicity (xxxix); tonicity is greater than elasticity (xli): tonicity then, it appears, is a superior power to the natural momentum of the blood.

xliv.—As an artery contracts in proportion to the smallness of the quantity of blood sent to it, it follows that an artery can never be imperfectly filled (xxxv).

xlv.—After death, arteries are found still preserving their cylindrical form, but with their tubes more or less empty.

xlvi.—Death then destroys the tonicity of arteries, but not their elasticity (xxxiv. xliv).

xlvii.—That the obliteration or closing of an artery to which no blood is sent (xxxv), arises from the exertion of some power residing in the artery, and not from the pressure of the atmosphere, is proved by the open state of the arteries after death (xlv).

xlviii.—The quantity of blood contained in arteries may be greater or less than is natural.

xlix.—As arteries are supplied with blood by the contractions of the ventricles of the heart (ii), the quantity of blood which arteries contain must depend upon the state of the action of the heart, upon the state of the blood, or upon the state of the arteries and of their terminations.

l.—The action of the heart may be altered in various ways, as has been before observed (xxiv. xxv. xxvi. xxvii. xxviii. xxix. xxx. xxxi).

li.—The states of the blood are its quantity, which may be greater or less than is natural (xviii. xxi. xxii), and perhaps its quality.

lii.—The states of an artery which influence its quantity of blood are, as has been said, its elasticity and its tonicity (xxxvii).

liii.—If tonicity always overcomes elasticity when the momentum of the blood is reduced or taken away (xli. xliii), it follows that the power of elasticity is never increased.

liv.—If arteries always preserve their cylindrical form after death (xlv), it would follow that elasticity is never destroyed, and perhaps never diminished.

lv.—It is true that certain diseased states of arteries may exist, which may destroy or impede its actions, by changing its structure, such as the ossification of arteries: such a state would impede the exertion of the power of tonicity. It has not been ascertained how far an overcharged state of the arteriæ arteriarum (xxxii) might impede the action of either of the powers (xxxiv. xxxv).

lvi.—The action of the heart being natural as to force and frequency, and the blood being in a natural state, an artery may contain a greater or a less quantity of blood than is natural, and from what has been stated (xxxvii. liii. liv) it follows, that this greater or less quantity must depend upon a diminution or an increase of the power of tonicity.

lvii.—If the tonicity be increased the balance of power (xxxix.) will be destroyed, the calibre of the artery will be diminished in size, and of course less blood will be contained in the artery.

lviii.—If the tonicity be diminished, the balance of power will be destroyed; the momentum of the blood aided by elasticity (xxxvi.) will prevail, and enlarge the calibre of the artery, which artery will contain a greater quantity of blood than it did in a natural state.

lix.—If the mass of blood be natural as to quantity, it follows, that if the arteries of one part of the body contain a greater quantity of blood than natural, the arteries of other parts must contain less than is natural, and vice versâ.

lx.—If the momentum of the blood be so far increased as to destroy the equilibrium (xxxix.) between the three powers, the artery will be enlarged, and will contain a greater quantity of blood than is natural.

lxi.—If the momentum of the blood be increased and the tonicity be proportionably increased, the equilibrium (xxxix.) will be still kept up under this increased action.

lxii.—An increase of the momentum of the blood, or a diminution of tonicity in an artery, or both together, will destroy the equilibrium (xxxix.), and will cause an artery to receive an unusually large share of blood; so will a diminution of momentum, or an increase of tonicity, or both together, destroy the equilibrium, and cause an artery to contain a smaller share of blood than is natural.

lxiii.—When the heart acts with increased force, or with increased frequency, or with both united, upon a natural or increased mass of blood, the blood endued with increased momentum will act against all the arteries of the body.

lxiv.—If an unusually great quantity of blood be poured into an artery, and if such blood be transmitted by such artery, it follows that an increased quantity must pass off by one, by some, or by all of its outlets or terminations (xiv. xv. xvi).

lxv.—The quantity of blood circulating through an artery being natural, if one of the terminations of such artery convey off more than its proportion of the blood in that artery, a less than the usual quantity will of course pass by the other terminations.

lxvi.—The blood which is sent into an artery may be obstructed in its passage from such artery; to determine in what way this may take place, we must consider the various terminations of arteries.

lxvii.—As some of the branches of arteries terminate in exhalants (vi.), if such exhalants be in any way prevented pouring out their usual excretion (xiv.) an impediment will of course be offered to the outlet of one portion of the blood sent to arteries.

lxviii.—As some of the arteries terminate in secreting structures (vii.), it follows, that if such secreting structure have its secreting powers (xv.) in any way suspended or diminished, or if in any way the ducts or outlets of such secreting structure be obstructed, an impediment will be offered to the passing off of one portion of the blood sent to arteries.

lxix.—As many arteries terminate by capillaries, which are continued into veins (viii. xvi.), it follows, that any obstruction existing in capillaries, or in veins, will impede the passage of a portion of the blood poured into arteries.

lxx.—Now if an impediment be offered to the passage of blood from an artery, while a fresh supply is directed to such artery at each contraction of the heart, it follows, that the capacity of the artery must be increased at such contraction of the heart, so as to be accommodated to the accumulating blood, or the coats of the artery must give way and burst, or the artery must be able to resist the entrance into it of more blood than it can transmit, or more blood must pass by other arteries which must find their calibre increased so as to enable them to admit an extra portion of blood, or an increased quantity must pass off by other outlets of the artery which are not obstructed, or the obstruction must be overcome or removed.

lxxi.—If an impediment exist to the passing off of a portion of the blood by the exhalants of any part or by the duct or outlet of any secreting structure, and if the exhalants of other parts or the ducts or outlets of other secreting structures do not carry off a proportionately increased quantity, it follows that there would be a diminished expenditure of blood (xviii.) and supposing the supply of fresh matter (xx.) to continue, the mass of blood would be increased.

lxxii.—If the mass of blood be increased, the heart must, in order to force on the increased mass, act with greater force or with greater frequency, or with both united, otherwise the momentum of the blood will be diminished, in consequence of the greater load which the heart is called upon to propel.

lxxiii.—If an artery be able to resist the entrance into it of blood which it cannot transmit (lxx.), it follows, that as at each contraction of the heart such artery ought to receive a certain share of blood, such share of blood, if it cannot gain admittance into the artery, must (if other arteries are in a natural state, and refuse to receive it) prove a resistance to the momentum of the blood, which resistance must increase and be accumulated at each contraction of the heart.

lxxiv.—The force of resistance (lxxiii) will be as the quantity of blood obstructed, supposing the other arteries to be in a natural state, or else it will also be as the greater or less exertion of their tonicity.

lxxv.—If the contractions of the heart are unable to force the resisting blood through the obstructed part, or by other passages or outlets, the natural equilibrium (xxxix) will be overturned, the momentum of the blood will be lessened, and the circulation will become languid and obstructed.

lxxvi.—If an artery, which receives more blood than it can transmit, should yield to the momentum of the blood, and burst, no obstacle of course would be opposed in such artery to the momentum; and as the momentum would have tonicity opposed to it in all other arteries, whereas in the ruptured vessel no tonicity were opposed to it, it follows, that the blood would flow more readily through the ruptured vessel than it would have done in the natural state of the artery; less blood would, of course, be sent to the other arteries (lix), and consequently the calibre of other arteries would be diminished after each contraction of the heart (xliv).

lxxvii.—In the case of ruptured artery (lxxvi), as none of the blood sent to the artery would return to the heart, it follows, that at every contraction of the heart there would be an unusual diminution of the quantity of circulating blood.

lxxviii.—The momentum of the blood being lessened in proportion to the diminution of the quantity of the blood (lxxvi. lxxvii) while the tonicity of other arteries than the one ruptured would be increased (lxxiv), the destruction of the equilibrium between the three powers (xxxix) would be continually furthered as more blood flowed from the ruptured artery; and if such a state continued, it would, if the heart continued to act, end in the total extinction of life from loss of blood.

lxxix.—If in the case above (lxxiv), the contractions of the heart became suspended, the blood, being no longer endued with momentum, would cease to flow from the ruptured artery. Thus syncope arrests hæmorrhage.

lxxx.—An artificial opening made in an artery would produce the same effects as the rupture of an artery.

lxxxi.—We have seen then, that, in order to procure an increased quantity of blood in an artery, the momentum of the blood must be increased so as to overcome the tonicity of the artery; or the tonicity must be reduced so as to be inferior to the combined powers of the natural momentum and the elasticity; or both these must take place together. (xxxix. lviii. lx. lxii).

lxxxii.—So, also, in order to procure a diminution of the quantity of blood in an artery, the momentum of the blood must be diminished, so as to be inferior to the tonicity; or the tonicity must be increased, so as to be superior to the combined powers of the momentum and the elasticity. (xxxix. lvii. lxii).

lxxxiii.—The blood being of a red colour, and the skin and the coats of the artery being more or less transparent, it follows that the greater the quantity of blood passing through the arteries of a part, the greater will be the redness of the part, and vice versâ.

lxxxiv.—A part through the arteries of which an increased quantity of blood circulates, feels proportionably warm.

lxxxv.—The greater the quantity of blood contained in the vessels of a part, the more enlarged of course will such part be.

lxxxvi.—A part then through the arteries of which an increased quantity of blood passes, will have increased redness (lxxxiii), increased warmth (lxxxv), and increase of size (lxxxv).

lxxxvii.—The action of the heart may be rendered more or less powerful, or its contractions more or less frequent by different states of the mind.

lxxxviii.—The quantity of certain secretions and excretions is increased or diminished under various states of the passions of the mind.

lxxxix.—The quantity of supply (xx) furnished to the blood, depends very much upon the state of the mind, the mind having a great influence over the digestive organs.

xc.—The state of the mind then influences the quantity of circulating blood, either promoting its increase or its diminution (xviii. xxi. xxii. lxxxviii. lxxxix.)

xci.—The action of the heart, and the quantity of blood in the system being natural, certain arteries may be made to contain an increased quantity of blood by different affections of the mind.

xcii.—Affections of the mind may then produce (lxxxvii. lxxxviii. lxxxix. xc. xci.) all the different states (xlix) under which an artery may have its blood increased.

xciii.—If less than the usual quantity of blood be sent to a part, there will be less sensation in such part than is natural.

xciv.—If a nerve going to a part be divided, such part will have its sensation diminished or lost.

xcv.—The nerves of a part being entire and healthy, the greater the quantity of blood circulating through the arteries of such part, the greater will be the degree of sensation in such part.

xcvi.—If we expose a nerve, and if we produce painful sensations by pricking or scraping such nerve, or by applying what are called stimulants to such nerve, the quantity of blood in the artery or arteries in the immediate neighbourhood of such nerve will be increased.

xcvii.—It appears then that there is a great connection between arterial circulation and sensation (xciii. xciv. xcv. xcvi.) and we find that an artery may be made to contain an increased quantity of blood from the influence of the mind (xcii.) which we suppose to be conveyed through the medium of nerves, or from other agents, acting through the medium of nerves (xcvi).

xcviii.—The action of the heart and the quantity of blood in the system being natural, the arteries of a part may be made to contain an increased quantity of blood by the application of heat, by friction, by certain diseases, whether general or local, and by the application of what are termed irritants or stimulants.

xcix.—The action of the heart, and the quantity of blood in the system being natural, the arteries of a part may be made to contain a diminished quantity of blood by the abstraction of heat, by the application of certain substances of the class of astringents or of sedatives, &c.

c.—From all that has been said (lvi lvii &c.) it appears that whatever causes an increase of the quantity of blood in an artery, supposing the momentum of the blood (xxiii. xxxvii. xxxviii.) to be not greater than is natural, (such as the agents mentioned above xci. xcvi. xcviii.) must do so by bringing about a diminished action of the power of tonicity in the artery; it also appears that whatever causes a diminution of blood in an artery, the blood and its momentum not being less than natural, must do so by bringing about an increased action of the power of tonicity.

II.

A Case of Tetanus, from Compound Dislocation and Fracture of the Thumb, which terminated successfully. By John North, of Molyneux-street, Edgeware-road; Member of the Royal College of Surgeons in London,

August 21st, 1816.—Mrs. Ennever, of Seymour-place, was thrown from a cart, and received a severe compound dislocation and fracture of the left thumb. The phalanx was thrown forwards completely out of the joint, with considerable laceration of the tendons and ligaments. A portion of the metacarpal bone towards the palm of the hand was nearly broken off just at the joint.

From the serious injury sustained it was more than probable that the motion of the joint would never be restored. It was, however, of the most essential consequence to the patient to retain the thumb, even should complete anchylosis of the joint take place. The parts were replaced in their natural situation, and the wound brought together, with as much accuracy and neatness as the contused and lacerated state of the integuments would allow.

It is almost unnecessary to remark, that the difficulty so frequently experienced in reducing dislocations of the thumb, was not met with in the present case; the laceration of the lateral ligaments and of the tendons, preventing their forming any obstacle to the reduction.

It went on very favorably; and in the course of ten days the wound was nearly healed, and free from pain.

Sept. 3d.—It was about six o'clock in the evening when I visited her, and the moment I entered her apartment my attention was attracted by the peculiar and almost indescribable anxiety expressed in her countenance. The angles of her mouth were drawn downwards; the upper teeth were more visible than usual; the brows contracted, and the difficulty and pain she experienced in turning her head were very evident.

She attributes the unpleasant and painful symptoms with which she is affected to a slight cold. She complains of a stiffness in the back of her neck; and an occasional difficulty in breathing, with painful catches in her shoulders and chest. She can swallow solids without much difficulty, but complains of a violent sense of suffocation when she attempts to take fluids. Bowels open. Pulse natural.

It was very evident, from these symptoms that tetanus was coming on; and as I had before witnessed the beneficial effects arising from a liberal use of opium in this formidable disease, I determined to rely chiefly upon its administration in the present case. I should have preferred the tinctura opii to the medicine in a solid form, from knowing that cases had occurred in which large quantities of opium, that had been given in pills, had been found undissolved in the stomach, upon examination *post mortem*.

As she could not swallow liquids without considerable inconvenience, the following pills were prescribed. It may be proper to remark, that I should have commenced with larger doses, had I not found, when attending her in former indispositions, that even small doses of tinct. opii acted very powerfully; producing head-ache and other unpleasant symptoms.

℞. Opii pur. ℈i. Extr. Colocynth. Comp. ʒss.
Hydr. Subm. gr. x. Sapon. Cast. ℈i. Syr. q. s. Ft. massa. divid. in pil. xx. Sumt. iv. statim, et repet. i. 4tis horis.

12 o'clock.—In a sound sleep. The countenance has resumed more of its wonted appearance. The pills to be continued.

4th.—Mr. Heaviside was now called in, and continued to attend her during the violence of the disease. The merit of the subsequent treatment, and the ultimate success of the case, is therefore to be ascribed to that gentleman.

She has slept for several hours during the night. Has taken ten of the pills without experiencing any of the unpleasant effects that so commonly arise from the free exhibition of opium. Difficulty of swallowing increased. The whole of the body occasionally affected with slight spasms. Considerable pain and rigidity in the muscles of the back of the neck. Anxiety of countenance still more strongly marked. Extremely irritable. Bowels not open since yesterday.

℞. Opii purif. ʒi. Ferr. Sulph. ʒss.
Sapon Castil. ʒss. Syr. q. s. ft. massa divid. in pil. xxx. Capt. ij. statim, et repet. i. omni horâ.

℞. Ext. Colocynth. C. ʒi. ft. pil. xij. Sumat iii. tertiâ quaque horâ donec resp. alvus.

℞. Ol. Ricini ℥ij. Aq. Distill. tepid. ℥viij.
Assafœtidæ ʒij. Muc. G. Arab. ℥j. Ft. Enema statim injicienda.

Vespere.—Pain in the neck not so severe. Spasms frequent and general, but not so violent as in the morning. She can turn her head with more facility. Has had three or four hours sleep during the day. Bowels opened twice, after having taken all the cathartic pills.

5th.—The contraction of the jaw, which has hitherto been trifling, is considerably increased. It is still possible, however, to introduce a small tea-spoon between the teeth. The attempt to swallow fluids is almost always followed by a violent spasm in the throat and chest. Her countenance exhibits the most piteous anxiety and distress. Respiration considerably impeded by violent tension about the chest. The legs are rigidly extended and excessively painful. Bowels not open since yesterday. Enema, as before, to be administered immediately, and repeated in three hours.

℞. Hydr. Submur. ʒss. Extr. Colocynth. C. ʒss.
Opii purif. gr. xv. Ft. pil. xij. Sumat i. omni semihorâ donec resp. alvus.
Post. operat. pil. cathart. perstat in usu pil. cum Opio.

Vespere.—Has had several copious and dark-coloured stools. Can take fluids with less difficulty, but not without the apprehension of being choked. Much the same in other respects.

6th.—Spasms more general, and much increased in violence. She is not free from them for more than ten minutes at a time. Has less aversion to take fluids, but is frequently prevented from swallowing even a tea-spoonful, by the violence of the muscular contractions about the throat. Her speech is considerably affected; so much so, as to render her almost unintelligible. Bowels open. Abdomen much enlarged in size, and extremely hard and painful. Breathes with less difficulty, but still complains of a sense of tightness and oppression at the chest. She feels a constant and violent pain in the back, down the whole course of the spine, with an occasional numbness. Her head is frequently thrown backwards with the utmost violence. Her tongue has been convulsively darted out several times, and severely bitten by the teeth being suddenly and forcibly closed. Legs in a constant state of rigid extension, and extremely painful. The arms are but very seldom affected with spasm; she complains of a dull heavy pain in the axillæ, which frequently shoots down to her fingers. Countenance very much distorted. Temper remarkably irritable. Her strength is evidently diminished. Pulse 80, and soft.

To be allowed a pint of port wine in the twenty-four hours, with nourishing broths, &c.

℞. Mist. Camphoræ ℥iss. Ætheris Vit. ʒi.
Tincturæ Opii ʒi. Tinct. Humuli ʒi. Misce, Ft. Haustus, tertia quaque horâ sumendus.

She was also directed to take a quarter of the following mixture, at any time that the spasms should be much increased in violence.

℞. Tincturæ Opii ʒss. Mist. Camphoræ ℥iv.
Spt. Lavand. ʒi. Misce. Ft. Mistura.

℞. Hydrarg. Submur. ʒss. Extr. Colocynth. C. ʒss. Ft. pil. xij. Sumat ii. pro re natâ. Injic. Enema ut antea bis in die.

The back to be rubbed frequently with

℞. Ol. Succini. Lin. Camphor āā. ℥j. Misce. Ft. Liniment.

Vespere.—Bowels open twice. In other respects no material alteration.

7th.—She is rather better in every respect. Abdomen not so tense, and less painful. Violence of the spasms somewhat abated, but never free from them for more than ten minutes at a time: they come on with great regularity. Speech less affected. Mouth sore from the calomel, with copious discharge of viscid saliva. Bowels open several times. Evacuations of a very dark colour, and highly offensive. Pulse 80. Considerable debility. The knees still remain extended, but not so rigidly as before. Pain and numbness down the course of the spine diminished. Drinks with less inconvenience, but is frequently prevented by spasms about the throat.

To continue the wine; and a glass of brandy and water to be allowed, three or four times in the twenty-four hours.

Haustus et Mistura ut antea.

Vespere.—Her spirits are much improved; bowels open.

8th.—She has slept soundly for three quarters of an hour this morning, and feels much refreshed by even this short respite from her sufferings. From the 5th to the present period the spasmodic contractions have never left her for more than a quarter of an hour; and with very few exceptions the intermissions have been of a much shorter duration. Abdomen tense and painful. In the course of the night she bent her knees without assistance, and with but little pain. Tension of the chest considerably abated. Respiration not so laborious. Rigidity of the back of the neck diminished; but she is not yet able to turn her head from the violent muscular action and excessive pain which are brought on by the attempt. She is very anxious for her back, neck, and legs, to be frequently rubbed with the liniment, from the application of which she has always found much relief. Bowels not open since yesterday evening. In the twenty-four hours she has taken one pint of wine, and half a pint of brandy. The enema and cathartic pills, as before, to be repeated until the bowels are freely open.

Perstat in usu Haustus et Misturæ ut antea.

Vespere.—Has been free from spasms for the space of half an hour, several times during the day. They are also decreased in violence, and are more partial. Bowels open.

9th.—Much better in every respect. Perstat ut antea.

Vespere.—I was desired to see her about seven o'clock, and found that from the negligence of her attendants, she had taken but one dose of medicine during the day, and but little wine or nourishment of any sort. She is now considerably worse. The spasms are almost constant. Her whole frame is sometimes so rigidly extended as to render it impossible to move her in any direction. The sudden and violent manner with which different parts of the body were alternately thrown from a state of flexion to extension, and vice-versâ, made me apprehend that some serious injury would ensue. Opisthotonos, and emprosthotonos, occasionally very severe. Countenance expressive of the most poignant distress. Her eyes appear immoveably fixed in their sockets. She is not able to articulate a single sentence intelligibly. Tension and pain of the abdomen much increased; respiration laborious; pulse 80, and soft; deglutition painful and difficult. I remained with her from this time till eight o'clock in the morning, for the purpose of administering the medicines and nourishment myself. Half an ounce of Tinctura Opii was immediately mixed in a little port wine, and I succeeded in giving her the whole of it in the course of one hour and a half; at the end of which time the severity of the spasms was in some measure abated. The countenance, also, was less distorted; she breathed with more facility, and the difficulty in swallowing was diminished. The tinctura opii was now continued in diminished doses. During the thirteen hours I remained with her she took Tinct. Opii ʒxi., about one pint of port wine, and nearly half a pint of brandy in water. By eight o'clock in the morning she was considerably better.

I now left her, and desired a draught as before to be given every three hours, and such a dose of the mixture as might be found necessary. The cathartic pills and the enema to be repeated as before, until the bowels have been freely evacuated.

10th, 1 P.M.—During the last three hours she has constantly dozed, when not prevented by the spasms, which are now much less severe. Not the slightest appearance of delirium or stupor, and free from head-ache. She has much less difficulty in swallowing; can take a wine glassful of liquid without being troubled by spasm. Breathing less laborious; pain and rigidity of the legs less severe; can bend her head towards the chest, and move it laterally, with much greater facility.

The teeth are too firmly closed to admit of her taking minced veal, for which she is very anxious. Her whole body is frequently thrown into a state of rigid extension in the most sudden and violent manner. Bowels open. Pain and extension of the abdomen continues with occasional contraction of the abdominal muscles.

A slight suppuration having taken place in the wound, which is very nearly healed; the following ointment is to be applied to promote the discharge.

℞. Ungt. Resinæ flavæ ℥ss. Antim. Tart. ℈i. Misce.
Perstat in usu Haustus et Misturæ ut antea.

Vespere.—Severity of the symptoms is much abated. From the 11th to the 14th she continued rather better; the spasms, however, still severe, and not completely subsiding for more than fifteen or twenty minutes at a time. Abdomen tense and painful. Bowels kept open by Ext. Colocynth C. and Calomel.

Teeth still closed so as to prevent her taking any solid larger than a pill, and even that with some difficulty.

Wine and brandy continued.

Perstat in usu Haustus et Misturæ.

On the evening of the 14th she was much agitated by the unexpected arrival of her brother. The spasms gradually increased, and at three in the morning I was desired to see her. From the sudden and indescribable violence with which she was thrown into different forms, and from the distressing difficulty she experienced in breathing, I did not imagine she could long survive. Relaxation of the jaw had frequently taken place, and having been followed by sudden contractions, the tongue had been severely bitten. She was incapable of speaking, but appeared to suffer violent pain. Her countenance was more hideously distorted than I had before observed. The abdominal muscles were now more severely affected. The right arm also was frequently relaxed, and extended in an instantaneous and violent manner. Lower extremities rigidly extended; feet and ankles cold. The spasms attacked her about every ten minutes. She could swallow fluids with less difficulty than before. I desired the feet and legs to be well rubbed with the liniment, which restored them to their natural heat in about half an hour. Half an ounce of tinct. opii was immediately given in a little brandy and water, and she continued taking tinctura opii ʒi. every half hour until the excessive violence of the spasms was in some measure abated. In about three hours she was able to speak intelligibly. Opisthotonos and emprosthotonos still very strongly marked; but she was now free from spasms for as long as half an hour at a time. I left her at ten o'clock, with directions for her to take one of the former draughts every two hours (tinct. opii ʒi. in each) and a dose of the mixture occasionally.

From the morning to the evening of the 14th she took tinct. opii. ʒv. tinct. humuli. ℥ss. During the seven hours I remained with her I administered tinct. opii ʒxi. She continued the wine and brandy. To guard against costiveness, which, of course, was to be apprehended, the following pills were given at eleven o'clock,

℞. Ext. Colocynth. C. ℈i, Hydr, Submur. gr. viii. Ft. pil. vi. Injic. Enema statim.

15th.—1 P. M. The violence of the spasms is considerably abated; has slept for one hour without interruption. Slight delirium for the first time, and complains also of head-ache. Countenance less distorted; speech not so much affected; complains of her legs and thighs being more painful than any other part: they are still rigidly extended. Tension and pain of the abdomen continues; neither the arms nor the abdominal muscles have been affected by spasm for three or four hours; her head is bent rather backwards, and she is capable of moving in any direction. Bowels not open for the last twenty-four hours.

Cathartic pills, and enema to be repeated.

Perstat in usu Haust. et Mist.

Vespere.—Bowels open. In every respect better; her spirits are much improved.

16th.—She is now much better. Tension and pain of the abdomen are the most prominent symptoms. Can move her head without pain in any direction. Spasms come on about every two hours, but with much less violence. Her teeth are still too firmly closed to allow her to take solid food. Swallows fluids without difficulty. Lower extremities no longer rigid or painful. Bowels open. Rests better.

Wine, &c. and medicines to be continued.

From the 17th to the 25th the symptoms were less severe. In each twenty-four hours the average quantity taken of tinct. opii was ʒvii. tinct. humuli ʒvi.

From the 25th to the 30th two or three slight attacks only, during the day: large doses of cathartics necessary to act upon the bowels. General health improving, wine and brandy diminished in quantity. Tinct. opii ʒiiss. in each twenty-four hours. She continued taking the tinct. opii in diminished doses until the 19th, when a draught containing fifty drops was taken at bed time only, for the next week or ten days; the use of that medicine was then entirely relinquished.

Tonic medicines, &c. were given for several weeks, but her health was not completely restored for four or five months.

OBSERVATIONS.

Although the practice adopted in the above case has not the charm of novelty to recommend it, I presume that apologies are unnecessary for submitting it to public notice. It would appear, indeed, a duty incumbent upon every practitioner to make known the result of the treatment that has been adopted in cases of importance; and more particularly so in those instances, in which there exists such a diversity of opinion as in the treatment of tetanus. In a disease which so rarely occurs, the experience of individuals must necessarily be extremely limited; and it is only from the aggregated observations of the profession, that we can hope to arrive at any satisfactory conclusion of the comparative advantages that are likely to result from any of the different modes of practice that have been recommended. I should imagine that the success of the above case did not depend upon the action of any of the remedies abstractedly considered, but upon their collective operation. The absolute necessity of carefully guarding against the obstinate constipation and torpor of the alimentary canal, which would have been induced by the free exhibition of opium, must be very obvious. I conceive, however, that, had recourse been had to purgatives alone, as has been recommended by an author of considerable celebrity, the result of this case would have been very different. That the purgative plan has been frequently successful in cases of *trismus nascentium*, is very certain: but as it is presumed, that this disease arises from the retention of the meconium, or from the presence of other matters conveyed too early into the stomach in the form of nourishment, the advantages that result from clearing the stomach and bowels are no more than might be expected, if we consider the nature of the disease.

With the greatest deference, therefore, to the opinion of Dr. Hamilton*, I do not conceive, with him, that the successful employment of purgatives in *trismus nascentium*, should induce us to rely upon their powers alone in tetanus, as arising in adults. There can be no doubt but that they have proved very successful auxiliaries, particularly where opium has been freely administered. In the above case, the power of opium in controling the violence of the agonizing spasms with which the patient was afflicted, was very striking; and although, in former indispositions, even small doses of that medicine produced very unpleasant symptoms, yet the large quantities she took whilst under the influence of this disease, affected her only once with a slight delirium and head-ache.

It is well known, that, when there exists any violent irritation, which does not increase the action of the sanguiferous system, opium may be used in very powerful doses with perfect safety, and without producing any unpleasant effect. If small doses be administered in such cases, they will not only prove inefficacious, but will very probably aggravate the disease*. I am aware that there are some practitioners who deny the propriety or the utility of exhibiting very large doses of opium in any case. It is not impossible that they may have formed this opinion from the injudicious manner in which they have exhibited the remedy, or from never having witnessed the beneficial effects arising from its liberal employment. The necessity of having recourse to cordials for the purpose of supporting the strength of persons labouring under tetanus, has been pointed out by Dr. Rush, and other eminent practitioners; and, in all probability, the success of the above case depended very much upon their influence.

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* Observations on the Use of Purgative Medicines.

The severity of the pain was invariably alleviated by the use of the liniment; this, I conceive, was principally owing to the friction which necessarily accompanied its application. The patient was perfectly free from fever throughout the whole course of the disease; and during the most violent paroxysms of muscular contraction, which were attended with excruciating pain, the pulse never rose above 80; and previous to her taking the wine and brandy, it was frequently as low as sixty-five, and very soft. A kind of miliary eruption made its appearance as she approached to a state of convalescence: I believe this is not uncommon where opium or other narcotics have been exhibited in large doses. It is almost unnecessary to remark, that in many respects the above disease bore a strong resemblance to hydrophobia.

A recapitulation of the quantities of opium and tincture of hops administered, may not, perhaps, be deemed useless. From the evening of the 3d of Sept. to the morning of the 4th, she took ʒss. of solid opium. In each twenty-four hours afterwards, as follows:—

4th Sept. to	5th,	Opium purificatum.	gr. 50.		
	6th,	Tinct. Opii.	ʒiss.	Tinct. Humuli.	℥j.
	7th,	Do.	ʒxiv.	Do.	℥x.
	8th,	Do.	ʒxiv.	Do.	℥j.
	9th,	Do.	℥iss.	Do.	℥j.
From the evening of the 9th to the morn^g. of the	10th,	Do.	ʒxi.		

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* If we expect to derive any advantage from the use of opium in *tetanus*, it must not only be administered in very large doses, but should be repeated as often as the urgency of the symptoms demands. This observation has been made by some of our most celebrated authors; and I may take the liberty of remarking, that the very limited experience I have yet had, convinces me it is well founded.

From 10th Sept. to 11th,	Tinct. Opii.	ʒiss.	Tinct. Humuli.	℥j.
12th,	Do.	ʒiss.	Do.	℥j.
13th,	Do.	ʒiss.	Do.	℥j.
14th,	Do.	ʒiss.	Do.	℥j.
15th,	Do.	ʒij.	Do.	ʒss.
16th,	Do.	ʒiss.	Do.	℥j.
From the 17th to 25th,	Do.	ʒvii.	Do.	ʒvj.
25th to 80th,	Do.	ʒiiss.		
30th Sept. to Oct. 15th,	Do.	ʒij.		
— 19th,	Do.	ʒiss.		

For several days after the 19th she took Tinctura Opii ♏ 50, at bed time only.

III.

Cases of Sympathetic Affection of the Brain with the Abdominal Viscera, cured by Purgatives; and on the Effects of the Arsenical Solution, and of Belladonna, in Chorea, &c. By WILLIAM NEWNHAM, Surgeon-Apothecary, Farnham, Surry.

(Concluded from page 285.)

CASE IV.

JAMES BYDE, ætat. 16 months, appeared on my first visit to him, on Sept. 17, 1815, to labour under a deranged state of the biliary organs, very prevalent at that period. I prescribed a dose of calomel, and subsequently small doses of rhubarb and magnesia, under which treatment he appeared to improve.

But, after a few days, he became more poorly, dull, not readily amused, and disposed to sleep—yet his sleep was easily disturbed. He frequently awoke suddenly; screamed violently; put his hand to his head; and, after a slight fit of fretting, again dropped off to sleep. He manifested an aversion to light; and the pupil was contracted. These symptoms were so peculiar as to attract the particular notice of the mother, who informed me that he was continually, as well asleep as awake, putting his hand to his head and rubbing it: that when he was up, his head seemed heavy; and he was ever *fretting*, and reclining the head. He was never easy, but in the cradle, and even then his sleep was disturbed. He was constantly knitting his eye-brows; his pulse was 110 to 120; he was averse from his food; the skin was dry and feverish, and the bowels constipated.

These symptoms had existed some days before I saw him the second time, which was on the 1st of October. I directed two leeches to be applied to the temples, and a grain of calomel to be taken every four hours.

Oct. 2nd.—He has taken six powders, and has had several copious motions of a dark unnatural colour, and pitchy consistence, mixed with other matters of a mottled, undigested appearance. The pulse is 90.

3d.—He has had a bad night; moaning and sighing when asleep, and fretting when awake. The pulse is 60, soft and irregular. The hand is constantly applied to the head. The motions are as before. Continue the powders.

5th.—He has had several motions; but the symptoms are as before; except that there is much nausea and vomiting. He refuses food; screams violently when taken from the cradle, and moans perpetually. The pulse is 48; the pupil dilated; and the iris sluggish. There is much restlessness, with occasional twitchings of different muscles of the face and body. Continue the powders: apply a blister to the neck, and use the warm bath twice a day.

7th.—No improvement in the state of his motions or in the other symptoms. He is generally comatose, except when he occasionally awakes suddenly, and shrieks aloud, putting his hand to his head. The brow is more relaxed, the pupil more dilated, and the irregular twitchings continue. Repeat the powders.

9th.—To-day, for the first time, the pulse has become quicker, being now 108. Yet the child seems better; has less moaning, and starting and shrieking: pupil more sensible to the light; has had a little sound sleep. Motions much more healthy in their appearance. Continue the warm bath, and the powder every eight hours.

11th.—Much improved. The pulse is from 96 to 100; the stools tolerably healthy; and the eye is recovering its lustre and its irritability. There is a smile upon his countenance, and a general appearance of returning health. Continue the same treatment.

From this time his recovery was progressive, and he took only sufficient doses of the aloetic wine to keep the bowels open. This appears to be a well marked case of hydrocephalic action, from abdominal irritation.

I might multiply these cases indefinitely: but, on the present occasion, my design is merely to exhibit a specimen; and I pass on therefore to notice some cases of chorea, which were not dependant on disordered digestive organs.

CASE V.

CHOREA.

Hannah Clear, ætat. 15, has had chorea in a greater or less degree for six weeks. She has never menstruated; but she has frequently spit blood, and complains of pain in the chest, and in the head, and of shortness of breath. A small bleeding relieved the symptoms of chorea. I then put her upon a system of aloëtic aperients. The menses appeared in about five weeks (Dec. 1815), and she has remained perfectly well. I have likewise been informed of a boy who was cured of obstinate chorea, by the irruption of a supernumerary set of teeth.

Case VI.

Jane Jefferies. This patient, ætat. 11, has for three weeks past been subject to those irregular motions which constitute the phenomena of chorea, in a mild form. She consulted me on June 3d, 1812. Purgatives of scammony, calomel, and jalap, repeated at small intervals, succeeded in obviating a torpid state of the bowels; dislodging a large accumulation of fæculent matter; and obtaining regular and healthy alvine excretions; but did not relieve the symptoms of chorea.

June 15.—I directed five drops of the arsenical solution to be taken three times a day. This acted as a charm, and she was quite well in a week.

Case VII.

Lucy Bartholomew, ætat. 7, became the subject of chorea in September 1813. Purgatives were exhibited freely a few days after the first appearance of the symptoms, and were continued for a fortnight without any remission; but, on the contrary, with an aggravation of the symptoms. The plan was discontinued on the 6th of October, and the Decoct. Cinchonæ with Vin. Ferri was given three times a day till the 24th; and yet she was no better. Five drops of the arsenical solution were now given with each dose of the medicine formerly prescribed. In three days she was better; and in a week was well. The symptoms occurred in April 1814, and were relieved in a few days by the arsenical solution alone.

Case VIII.

Lucy Barnes, ætat. 15, became my patient on December the 5th, 1814. The usual symptoms of chorea were present; but the bowels were in a healthy state, and the tongue clean. In the present instance I could perceive no indication for the use of purgatives. She was a very weakly subject, and was relieved of her complaints *gradually* in about a fortnight, by taking only the Pil. Ferri cum Myrrha gr. v. ter quotidie.

Case IX.

Mary Small, ætat. 17, suffered from an attack of acute rheumatism, in Dec. 1814, from which she became rapidly convalescent, and returned to her place on the 1st of Jan. 1815. She left it again on the 5th; for, having been seized with chorea, she was unable to attend to its duties. The involuntary motions attacked her each day about twelve o'clock at noon, and lasted till bed-time, for the few first days; but very soon they became almost constant, suffering only a slight remission during the night and very early in the morning. Purgatives were freely administered for the first ten days. There was nothing morbid or unnatural in the appearance of the stools; neither were the symptoms mitigated by this treatment. Five minims of the arsenical solution were directed for her on the 16th of January, to be taken every six hours, with the effect of relieving the spasms almost immediately, and finally removing every symptom in five or six days. As she became convalescent from chorea, she was attacked with porrigo of the scalp, which was removed in about six weeks, and she has since remained perfectly well.

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I have never given the belladonna alone in chorea; but its efficacy appears to be considerable. Whence comes it that there are so many ways of curing this disease?—that venesection is recommended on the one hand; that purgatives are entirely trusted to on the other; whilst a third person places his reliance upon tonics, and a fourth upon sedatives? How can these opposite and contradictory modes of treatment be reconciled with the nature of the disease, or with each other, but by supposing that the cause of irritation in the nervous system, producing chorea, may be composed of a *variety* of morbid actions, and that a removal of the individual morbid action relieves the symptoms?

This paper has already occupied so much space, that I shall not, as I had proposed to myself, review generally the preceding cases; but will conclude by briefly stating two cases, illustrative of the powers of Belladonna. They are sufficiently encouraging to induce me to persevere in its use; and although no very positive inferences can be drawn from them, yet, I conceive they may not be unacceptable to the profession.

Case X.

Mrs. Smith, a diabetic and very whimsical patient, at forty-seven, the mother of a large family, has been frequently under my care. She experienced much relief last summer (1815) from pursuing the plan recommended by Dr. Watt; but contented with this transient improvement, she declined persevering in the system I had recommended. She relapsed; her diabetic symptoms increased; and her emaciation and debility were extreme.

She again became my patient on the 29th of June, 1816. It was now impossible to bleed her, owing to her great exhaustion; I therefore advised her to try opium in the form of Dover's powder. This did not appear to produce any good effect with her; and on the *fifth of July* she was seized with convulsions, which attacked her with short intervals during the whole of the day. When the fit remitted, the left side was *almost* paralytic, that is, she could not raise the arm or the leg from the bed, nor retain any thing in her hand; but during the paroxysm, the muscles of this side were more particularly excited; and if she grasped any thing at this time, it was almost impossible to make her quit her hold. The left side felt benumbed. She got no rest, and was much reduced by her violent and frequently repeated struggles.

From this time till the 16th of July, the whole round of nervous medicines, in every variety of form, was tried: opium, æther, camphor, musk, castor, ammonia, assafœtida, hyosciamus, antispasmodic injections, blisters, cupping, sinapisms to the feet, and purgatives; but all were found inefficacious. The convulsive symptoms were aggravated; the intervals shorter; and she appeared to be rapidly sinking into the grave.

On the 16th of July I directed the following pills:—

℞. Argenti nitratis
Ext. Belladonnæ āā gr. iij.
Pulv. Rhæi gr. vj.
Confect. Aromat. q. s. ft. Pil. viij.—quarum sumatur una 8vâ quâque horâ.

I visited her on the following day; she had taken three pills: the first acted instantly; she had had an hour's sleep, and the convulsions were not so strong; and in three days this symptom was entirely relieved. I directed her to persevere in taking the pills; and the dose was subsequently increased to half a grain of the nitrate of silver and extract of belladonna, three times in the day. Upon this plan she soon recovered her health, and was able to superintend her family. After a fortnight I was rejoiced to find her strengh very much improved; and this amendment continued so progressive, that in the middle of August, her appetite was regularly good, her thirst much diminished, her debility removed, the secretion of urine diminished from *eleven* to *five* pints in the twenty-four hours, and the saccharine taste much weakened. She has generally a gentle moisture upon the skin, which she had not felt for three years before. In fact she was then very much better than at any period of the year 1815, and she continued to improve. She omitted her medicines in the beginning of September; and when I last saw her, October 19th, she complained more of thirst and languor than she had done.

This compressed case exhibits a surprising effect produced by medicine; but it leaves it undecided, whether this is to be ascribed to the belladonna or the nitrate of silver. Perhaps both may have had some share in the cure; but I believe the former to have been the more efficient agent. I have several times witnessed the good effects of the combination.

Case XI.

John Novell, aged eighteen, has been subject to epileptic fits for the last seven years; and of late the paroxysms have increased in intensity, and have become more frequent; so that not a single day passes without his experiencing several fits. He appears to be almost an idiot; yet, when tolerably free from his paroxysms, he is capable of giving a rational reply. In walking, he drags the left leg after him, as if it were unable to assist him, or to bear his weight. His left arm is likewise impaired in strength, and the middle, ring, and little finger, are permanently contracted, and drawn down into the hand. I prescribed for him, on the 3d of June 1816, the third of a grain of extract of belladonna three times a day, which has been gradually increased to a grain for each dose. He has persevered steadily in taking his medicines. After the first five days he seemed better, and has been gradually improving, having had no fit for the last five weeks, an interval which he has not known before for as many years. His general health and intellectual powers also appear to be greatly improved; and altogether there is much more amendment than there was reason to anticipate in so unpromising a case. I advised a steady continuance of the belladonna.

IV.

A fatal Case of Hydatids, with enlarged Kidneys; and an Observation on the Buffy Appearance on Arterial Blood. By John Dunn, of Pickering, Yorkshire; Member of the Royal College of Surgeons in London.

The Case of *Hydatids passed by the Urethra*, reported by Dr. *Auglagnier* (vide *Repository*, vol. vi. p. 418,) together with the *Observations on Suppression and Diminished Excretion of Urine* (*ibid.* p. 353), remind me of a case which occurred in the York County Hospital, in 1813. The patient was admitted under the care of Dr. Lawson.

Jonas Wainwright, aged 48, complained of uneasiness of the stomach, after swallowing any thing, and that both liquids and solids were equally rejected. The sickness had commenced about a fortnight before. He had a slight pain in his right side, with a trifling cough. The vomiting was incessant, but there was no appearance of bile, and very little smell to be observed in the liquid rejected. There was no symptom of inflammatory action. As he had had no evacuation lately, a solution of sulphate of magnesia was given, but it was not retained. The effervescing mixture was also rejected in two or three minutes after swallowing it. He retained one pill of opium. On the fifth day of his admission, his breathing became heavy, and the debility was so great that nature appeared exhausted, A glyster was administered which brought away some fæces. In the evening his breathing became laborious, and his dissolution soon took place.

No appearance of disease presented itself on examination of the corpse, except in the kidneys, which were enormously enlarged, and filled with a prodigious number of hydatids.

The following is the history of the symptoms previous to his coming into the hospital. About twelve years since, he was very much troubled with pain in his loins, and difficulty in making water, which had a deposition of gravelly matter; it was also frequently bloody, but this subsided on his passing a brown coloured stone the size and shape of a large almond. He afterwards got well, and went to his work, which he performed with ease. He was always industrious and temperate; lately, however, he had a desire for warm liquors, particularly rum and milk, which he thought settled his stomach, and disposed him to sleep. In the winter of 1811 and beginning of 1812, he was seized with pain in his loins and joints, had constant thirst, and anasarca of his legs and body. His disease was treated by a medical gentleman for a rheumatic fever; but it appears that he had the ordinary symptoms of an intermittent, being seized every other day with a shivering, succeeded by heat, flushed cheeks, and sweating; and on the intermediate days being quite well. His water was voided frequently, and more copiously than usual; was as clear as in health, but deposited a red precipitate. A general and violent pain about the body followed the attack of fever; his bowels were disposed to become constipated, and he was much troubled with flatus. The pain was accompanied with a tension of the abdomen. Great debility followed the fever and pains in the loins, which made him stoop. He slept badly during the night, being troubled at this time with a cough; in the day, he was more composed, but drowsy. He generally lay on his left side, and could only remain a short time on his back. A troublesome cramp tormented him in his legs and thighs, and sometimes extended to his shoulders. This was the most annoying symptom, particularly at night, when it was always worse. About two months before, great numbness of the lower extremities came on; his arms became tremulous; and his appetite diminished. Soon after the numbness, frequent vomiting followed, which took place about a fortnight before his admission into the hospital. He had a slight bleeding from his nose for two days previous to his death. Since the attack of fever, he constantly sought rest, for every motion hurt his loins.

If worms are expelled from the bowels by purgatives, why may not these animalcules be removed by turpentine, &c. which are supposed to destroy their life. If the attachment of hydatids could be destroyed by such means, their expulsion would be no difficult matter. Whether such would be the consequence, experiment must determine; but the first step is evidently to trace out the symptoms of the disease, and, in this case, these, when he came into the hospital, were very unconnected with the original malady.

V.

On the Size in Arterial Blood. By the same.

It has been much disputed, whether arterial blood ever becomes buffy. An intelligent and experienced medical friend who denied it, assured me that he had taken arterial and venous blood at the same time, and that the latter exhibited strong indications of size, and the former none. This goes no further than to shew that such can be the case at the same time, but by no means proves that arterial blood is never buffy. The observations upon this subject, by Dr. Gordon and others, are confirmed by a case which I had in the early part of last year. The patient complained of a severe pain in the head and ear; I opened the temporal artery; the blood came very freely, and I collected a large cup full, which, on standing, was covered with the coriaceous surface. I collected a little more in another vessel, when the current began to diminish, and found the trace of it much fainter. The size was as perfectly formed as when taken from a vein in pleurisy. I opened the trunk of the artery opposite the tragus; my friend generally divided one of the branches.

VI.

Two Cases of Cancer treated by Pressure. By J. G. Mansford, of Frome, Somersetshire; Member of the Royal College of Surgeon in London.

Case I.

Mrs. F. ætat. 58, was induced by earnest solicitation, to submit to the plan of treatment recommended by Mr. Young for a cancer of the right breast, which had existed about two years, and which in that time had acquired a magnitude and inveteracy that appeared to bid defiance to any other method of treatment. She was much reduced by pain, and the profuse discharge from a large and deep ulcer that occupied the centre of the scirrhus. She had also been long affected with cough and dyspnœa. The case was considered unfavourable, but was undertaken with strong hopes of amendment, which its progress for the first three weeks seemed fully to justify. At the end of this period the alteration observed was very great. The tumour presented a striking diminution in size; the discharge was less; and the ulcer had contracted in extent and in depth. Up to this period also the constitutional symptoms were but little aggravated. But the patient now declined rapidly, and finally sunk with all the symptoms of hydrothorax six weeks from the commencement of the plan.

CASE II.

Mrs. T. ætat. 53. A scirrhus of immense size and weight occupied the place of the left breast. But as it had only existed one year; as no ulceration had taken place; as the tumour had formed no attachments; and as the neighbouring glands were not affected, and the patient's constitution was unimpaired; the case was undertaken with bold promises of success. The catamenia had not yet ceased, but were irregular. As the tumour was circumscribed, and the surrounding parts healthy, the pressure was maintained by an instrument continued on the plan of Mr. Salmon's Self-Adjusting Truss; the hint for which was taken from the review of Mr. Young's publication in the *Medical Repository**. A circular plate of iron, slightly concave, was fitted to the tumour; and the spring carried over the shoulder rested on a cushion between the scapulæ. By means of this instrument the pressure was constant, and uniform; and admitted of increase or diminution as might be found adviseable; while no restraint was put upon the motions of the body or arms, and but little on respiration. For six months this treatment was patiently borne, and all went on well. The tumour in the course of this time decreased to about a fifth of its former size. But at this time the patient began to decline, and the event of the first case bearing on my mind, the pressure was discontinued: but the mischief was already done. After a long train of alarming symptoms, which rapidly succeeded each other, and resisted all the means used to arrest them, this patient also died with symptoms of hydrothorax, at the distance of eight months from the first application of the pressure.

REMARKS.

These two cases may be supposed sufficient to leave an impression on the mind of any practitioner to whom they might occur, unfavourable to the plan adopted: but that would not because a disease is asthenic; a feeble pulse is not a proof that bleeding will be dangerous, or fail to afford relief: but these powerful remedies are employed under circumstances in which they have been found efficacious by men little influenced by theories, and attentive in the observing and treating of diseases.

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* Vide Repository, vol. iv p. 45.

The practice of medicine seems to be on a different footing in some parts of the Continent. In Germany and France the Brunonian system is still of sufficient importance to be the subject of some recent treatises in its favour as well as against it; and the beginning of the work announced above is occupied in severe and just criticisms on the production of a Dr. Hernandez, who divides fever into sthenic and asthenic, and places in the latter class all those of a typhoid character. He denies that bile, or any other matters accumulated in the *primæ viæ*, are capable of producing fever; and assures us that it is necessary to avoid vomiting and purging "for fear of increasing the debility!"

In refuting the dangerous opinions of Dr. Hernandez, M. Broussais introduces to us a doctrine of his own, that all fevers depend upon some local inflammation or increased local action approaching to inflammation, generally existing in the mucous membrane of the intestines. The particulars of this doctrine are given more at large in another treatise of M. Broussais*; and although we cannot go the length which he wishes, we have long observed that fevers rarely prove fatal without attacking some important organ, and leaving signs after death of inflammation having existed.

"Increased temperature conjoined with quickness of the pulse indicates," M. Broussais observes, "an increase of vital action, the function of the heart and capillary vessels being to generate heat. If the cause of these phenomena debilitates, it is because it acts by stimulating. A small contracted pulse and prostration of muscular strength are not of themselves a proof of debility, and much less so when febrile heat is superadded; these pretended signs of weakness often depend on the pain of an irritated organ, and disappear as soon as this irritation is quieted. The pulse is large and full only in inflammations where the pain is not excessive; the anxiety accompanying extensive inflammations is, from painful feelings, the most debilitating. Fevers and inflammations attack weakened subjects; general weakness even favours them in many cases, by facilitating the unequal distribution of force, the principal cause of inflammations and fevers: but, whether the system be weak or strong, these diseased actions must follow the same laws; and it is never by stimulating the organ which is the seat of irritation, that we subdue an active inflammation, particularly in internal organs, however weakened the patient may appear. I could adduce numerous instances analogous to those of pretended sporadic typhus, where the weakness has been dissipated by bleeding or emollient drinks. Ask the surgeon, if you have the misfortune to be unacquainted with the valuable science which he cultivates, how he re-establishes the pulse and the muscular power in a case of strangulated hernia?"—p. 50, 52.

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* *Histoire Phlegmasies ou Inflammations Chroniques,* 2 vol. 8vo.

We have, therefore, according to M. Broussais' doctrine, only to find out the inflammation which causes the debility, and in proportion as we diminish the cause, we shall remove the fever and debility which are only effects. That gastric, nervous, mucous, catarrhal, and other fevers which occur without the influence of putrid miasmata are only *phlegmasiæ* of mucous membranes, this author has convinced himself in the following manner:

" 1. Since I have considered the earliest symptoms of these fevers as the first stage of inflammation and treated them accordingly, I have almost always had the satisfaction to cure the patient in a few days, sometimes in a few hours. 2. When I have not been called to the patient until the febrile action was fully developed, I have observed that the antiphlogistic treatment, directed expressly with a view of subduing the mucous inflammation, has shortened the duration of the disease, spared the strength of the patient, rendered the symptoms, called typhoid and nervous, less frequent, and diminished the mortality. 3. Since I have adopted this method of treatment, I have rarely seen these fevers attended with the frightful symptoms which writers assign to them. 4. In the cases where these symptoms have occurred, from the fault of the patient or any other cause, I have constantly found on dissection traces of the inflammation which nourished the fever. 5. Those who have thought favourably of my observations, and followed the treatment they inculcate, whether in the army or in private practice, have, without exception, obtained the same results as myself."—p. 100.

This, however, is saying more for the treatment than for the theory; the existence of inflammation in the numerous instances of recovery from fever being inferred from the dissection of a few cases that ended fatally. M. Broussais cites numerous authorities in favour of the antiphlogistic treatment of fever, as if it was just dawning upon his countrymen, and would not otherwise be well received by them. His experience has taught him, that typhus is less frequent than generally supposed; and in what he calls the period of irritation of the true contagious typhus, (a period neither limited nor defined by him,) the best means of arresting the progress of the disease and rendering the symptoms less severe, are to treat it as gastritis, giving acid and emollient drinks, proscribing food, and even having recourse to general and local bleeding, if the irritation of the viscera is great enough to create apprehensions of disorganization. Purging, so much in vogue with us, seems not to be regarded as a very important part of the antiphlogistic treatment by M. Broussais; nor does he know the recommendations it has received from our best writers on fever; Currie, whom he has unjustifiably transferred to America, being the only English writer quoted in the course of his work.

We are not anxious to discountenance a theory that accords with the most approved method of practice. The antiphlogistic plan, we agree with M. Broussais, is often as effectual in the cure of fevers, as if they depended on the existence of membranous inflammation; and the benefits of it are so well understood in this country, that we need not enforce them by many extracts from this author's remarks on the cure of typhus. It is not, he observes, by rousing the vital action in all the organs without distinction, that topical irritants procure advantages; but by exciting it in a region of the body where it was languishing, they cause it to diminish in other parts where it was found in excess. Although stimulation may be eminently necessary in typhoid fever arising under the most debilitating circumstances, it should always be directed to those organs which are at the time suffering least irritation, in order to save from destruction those which are the seat of congestion.

"The circumstances," says M. Broussais, "under which wine and other stimulants may be given internally, are—1, when there is general weakness and stupor, with a tongue slightly red, and without any sign of inflammation in the three cavities: 2, when, so far from rendering the tongue dry and crusted, the thirst more intolerable, the skin more hot, and the nervous emotions more frequent, these means procure a diminution of all those symptoms, softness of the pulse, and an agreeable disposition to sweating; and even then it is necessary to stop at the moment when the tongue, the skin, the pulse, and an anxious state of mind, give signs of over excitement, and to have recourse to acids until there is indication that the former means may be resumed without injury: 3, when the febrile period is terminated, and the patients falls into a state of extreme weakness, which can no longer be attributed to the suffering of an inflamed organ; this is, properly speaking, the first moment of convalescence, and it is necessary, in this case, to regulate the dose of the stimulant so that you may not dissipate the feeble force which still maintains life: 4, when there is no longer any hope, the diseased actions increasing with an astonishing rapidity, notwithstanding the employment of the most powerful *revulsives*. We here act empirically, determining to oppose irritation to irritation, rather than remain idle spectators of the destruction which appears inevitable. This is, however, a very delicate case; and I am convinced, that this dispairing method to which we often deliver ourselves up too soon, has sacrificed many more than it has saved; for, after having adopted it for certain patients whom I considered as lost, its bad effects have sometimes made me abandon it, and I have afterwards had the satisfaction of seeing mild drinks and acids produce a greater effect than before this over-excitation, and restore a patient whom I should probably have lost if I had persisted in employing exclusively either one or the other of these methods."—p. 177—179.

After having delivered his notions upon the nature and treatment of typhus, M. Broussais enters into a critical examination of modern systems of nosology. He first appreciates the arrangement of fevers, which have been divided into so many classes and received so many new names, by modern writers in France, that we are not surprized he should find many inconsistences and objections; but, if we are not mistaken, he has stated these with more confidence than ability, and attempted to elevate himself to the rank of a Paracelsus without being possessed of the genius of his prototype. It is high time, he tells us, for practitioners to persuade themselves that their science can be progressive only from the moment that it is guided by the light of physiology and morbid anatomy; that the doctrine is vague, which is always founded on abstractions; that the classifications of nosologists are only arrangements of words without any definite meaning; and that all the books we possess contain nothing to be preserved by us except facts, which we must seek every occasion to verify, because they are often disfigured to make them conformable to theories! Had this writer recollected that he might have been deprived of the merit of making a great discovery, he would, perhaps, have been less severe upon modern nosologists for not arranging fevers according to doctrines of which they were ignorant, or of the truth of which they have found it no easy matter to convince themselves.

Phlegmasiæ have not been more judiciously classified than fevers by modern nosologists. Under gastritis they have included only one of the *thousand* forms of inflammatory disease which M. Broussais has known to affect the different tissues of that organ. Finding the inflammation in enteritis confined to the peritoneum, they have changed it to peritonitis; and dysentery, one of the *profluvia* of former nosologists, they have converted to a phlegmasia of the mucous membrane of the colon; but as their predecessors had left no word for expressing the phlegmasiæ of the mucous membrane of the small intestines, the symptoms with which they are attended are almost always regarded by them as a fever, which some call *bilious*, others *pituitous*, *mucous*, *entero-mesenteric*, *&c.* according to the order of symptoms with which they have been most struck.

" But it is necessary," says M. Broussais, " to put aside these terms, and to declare that these pretended fevers are only the phlegmasiæ of the mucous membrane of the superior portion of the digestive canal, from the stomach, which is always more or less concerned, to the cœcum. They have taken a right view of the matter, in attributing the febrile symptoms to the irritation of the membranes of the digestive canal; but they have not had the courage to dismiss the word fever from the cases in question. This is, however, clearly what ought to have been done; and it is this omission which has obliged them to affirm that the irritation, which determines these fevers, is not a phlegmasiæ; an error which has given me an opportunity of shewing that these authors contradict themselves."—p. 228.

The division of hæmorrhages into active and passive is not allowed by M. Broussais to be supported either by physiology or the results of practice. Hæmorrhages occur *avec faiblesse*, but never *par faiblesse*. In the part from which the blood flows, there is always a local augmentation of organic phenomena; never a diminution. Are we to call an hæmorrhage passive because the whole system is weak? It is shewn that weakness alone, without irritation, closes the minute vessels, instead of opening them; and that a man may be even starved to death without hæmorrhage being produced by the debility! The author brings to his aid the menstrual discharge, by considering it as a discharge of blood, instead of a secretion of a peculiar fluid; but the strongest of his arguments are founded on the most refined doctrines of Bichât, "the peculiar sensibility of the exhalents, adapting them to the reception of certain fluids, &c. to the exclusion of all others," and "the power of the capillary arteries to propel the blood, unassisted by the heart or larger vessels;" which is explaining *obscurum obscuriore*, as these points are at least as doubtful as the opinions they are intended to overthrow.

Cancer, it is next asserted, has not more claim to be called an organic disease than the formation of an abscess, or any other consequence of phlegmon; it is simply induration in the first instance, produced by a prolonged irritation of the nerves or of the blood vessels. Inflammation, which frequently gives rise to these harmless tumours, subsequently bestows upon them their malignant character.

"If you observe what happens in *these tumours* at the *moment* of their degenerating into cancer, you will remark that the phenomena of inflammation are developed; that the disorganization advances in proportion to their intensity; that whatever stimulates, locally accelerates the progress of the disease; and that every thing which establishes plethora, or increases the general sensibility of the system, produces the same effect."—p. 300.

This author certainly intermixes some good practical remarks with very hazardous assertions, and the preceding quotation gives us an example of it. To credit all he says, we must suppose him intuitively to determine what others with the most careful observation and induction could never arrive at—the *moment* when a harmless tumour degenerates into cancer! Lancinating pains are not characteristic of this change; because, suspected tumours have been dispersed, as he himself tells us, after these have been experienced. If the phenomena of inflammation to which he alludes refer to the period that precedes cancerous ulceration, we may employ an argument, used by him as often as it suits his purpose, the dangerous tendency of which will lead the surgeon to defer an operation until the period is passed when it might have been undertaken with some chance of success.

In discussing the nature of tubercles, this writer supports his opinions with more plausibility. It has been stated by M. Bayle, in a work of great merit and research, which he published shortly previous to his death, that tubercles of the lungs are the effect of a scrofulous diathesis; that when they are attended by inflammation, it is an accidental complication, and never gives rise to them. In a system, therefore, pervaded by this chronic scrofulous action, we cannot hope to prevent the formation of tubercles, but must be contented if we can keep the enemy latent, and check the inconvenient symptoms which too frequently proceed from it. M. Broussais, after twelve years of practice, and the frequent inspection of dead bodies in military hospitals, takes a contrary side of the question. In a great majority of persons who have died of consumption from tubercles, under his observation, the origin of the disease could be traced to colds, pleurisies, and peripneumonies, in consequence of the varying climates to which the patients had been exposed. Whilst the army was exposed to the cold and moist atmosphere of Holland, phthisis was very prevalent; and as often as a catarrh, pleurisy, or peripneumony, (the most frequent forms of inflammatory disease in cold and temperate countries,) fixed upon a system disposed to scrofula, the case was despaired of. Tubercles, or granulations of the lungs, were found in all those who died under these circumstances. The army being afterwards transported to Italy, phthisis became less frequent in proportion as inflammatory disorders of the thoracic viscera were more rare. Here the phlegmasiæ of warm climates, gastritis, enteritis, and dysentery, often proved fatal; but no pulmonary tubercles were found on dissection. Hence the author contends that tubercles are always caused by inflammation, and that they cannot, as M. Bayle thought, remain throughout life in the lungs without making any progress, provided no inflammation occurs to excite them into action.

"By a single fact I will refute this assertion; for I have opened, in Italy and the South of Spain, a great number of subjects, of the conformation which we name consumptive, who had died of other diseases, and I have found tubercles in the lungs very rarely, and only when those organs had been irritated a long time previous to death, the patients having suffered the same as if they had lived in a cold climate."—p. 312.

This author furnishes us with no detail of the facts on which his opinions rest, and his sweeping conclusions must be accepted with reserve. He says he has examined as many bodies destroyed by phthisis as M. Bayle; but the mind is very easily deceived about large numbers; and if he has not preserved records of his dissections, others cannot fairly rely so much on his deductions as he seems to do himself. We have found the lungs of a child, three months old, filled with tubercles; in another instance we have known them to have existed two months after birth, where variations of temperature and successive catarrhs had certainly not occurred to produce them.

As a specimen of M. Broussais' style, we extract his conclusions on the examination of M. Bayle's opinions:

"Je me suis fort étendu sur ces considerations physiologico-pathologiques afin de faire sentir combien a été grande l'erreur de M. Bayle lorsque, sans avoir égard aux nombreux modificateurs qui influent sur la vitalité de tout l'organisme, il a créé six êtres particuliers, qui, comme autant de puissances malfaisantes, s'insinuent furtivement, et sans qu'on sache pourquoi, dans le poumon, afin d'en opérer la désorganisation. Il me sera toujours impossible de comprendre comment il a pu concevoir un vice scrofuleux qui plane sur toute une famille, et qui est nécessairement antérieur à tous les signes qui peuvent indiquer son existence: comment il a pu se dispenser de rallier les irritations des systèmes sanguin et nerveux à celles des vaisseaux non sanguins de differens ordres: comment il n'a point vu qu'en admettant des vices particuliers pour la production des tubercules, des cancers, de la mélanose, des calculs, des ulcères du poumon, il se trouve en contradiction avec lui-même en refusant d'en admettre pour les inflammations, pour les suppurations (qui ne sont pas nécessairement précédées de ce phénomène), pour les ulcères de toutes les autres parties du corps, pour les fongosités et pour toutes les formes connues ou non connues que peuvent présenter les dégénérescences des organes: comment surtout il a oublié l'influence du froid et du chaud sur les fonctions du poumon: comment enfin il s'est opiniâtré à repousser l'application de la physiologie à la médecine, dont j'avais donné l'exemple, pour y porter un ennuyeux empirisme, et le fatalisme le plus désespérant.

"Tel est pourtant l'ouvrage qui a mérité tant d'éloges, qui est donné pour un modèle de la bonne méthode d'observation...Mais doit on s'en étonner lorsqu'il existe à peine quelque médecin qui ait su féconder les vues ingénieuses et profondes de Bichât; lorsque des écrivains en crédit s'efforcent d'exténuer le mérite de ce grand homme en se parant de ses lambeaux défigurés; lorsque de toutes parts on élève des trophées à de vains classificateurs qui n'ont point su distinguer les rapprochemens fondés sur la saine physiologie, d'avec les explications hypothétiques des écoles de tous les temps?"—p. 351, 352.

We have culled a few blossoms from a waste which we advise our readers not to enter upon. From the preface we learn that the book is offered to the public to ease the conscience of its author, and to confer a benefit on humanity. If such a confession does not imply that the writer has too good an opinion of himself, it proves that he entertains a very unfavourable one of his readers, who require to be told of merits and motives which they might otherwise neither find out nor suspect. Lest posterity should fail to do him justice, he has measured out to himself before-hand his proper share of future fame, and classed himself with the Herveys and the Jenners of our times. Science he considers as a republic, and he has in every part of his work acted up to his principles, by boldly attempting to effect a revolution of all received systems and doctrines.

II.

A Physiological System of Nosology; with a corrected and simplified Nomenclature. By John Mason Good, F.R.S. &c. &c. 8vo. pp. 648. London, 1817. Cox and Son.

The appearance of a System of Nosology in the medical world, is like that of an epic poem in the province of polite literature. Both of them require for their composition minds of no ordinary expanse; and the very attempt at either displays a boldness and confidence of talent, which is not the production of every period in the progressive cycles of the history of intellect. Hence both mark their periods: the one exhibits the degree of advancement in civilization, and in refinement of taste of its age; while the other, from the nature of the subject, may be regarded as displaying the point to which the tide of improvement has risen on the shore of Medicine, at the time of its publication.

As far as classical knowledge and deep reasoning are requisite for a nosological writer, the qualifications of the author of the System before us are of a very superior class: but something more is essential; and no man can successfully aspire to the character of a great nosologist without possessing a very rich fund of practical as well as theoretical knowledge; a discriminative mind equally fitted for tracing the finer shades of distinction, as for marking out the bolder boundaries which separate diseases; a chastened imagination, and an inflexible love of truth. How far our author is qualified, in these respects, for the task he has imposed upon himself, it is our duty to enable our readers to decide, by a correct and impartial analysis of his work.

In his preliminary dissertation, Mr. Good informs us, that he commenced his labours for the preparation of this work, and sketched its general outline, in the year 1808; since which he has kept his eye open to every publication or hint that has appeared on the subject, or has had any connection with it. The following is his account of the main object of the task which he undertook:—

> "It is that, if it could be accomplished, of connecting the science of diseases more closely with the sister branches of natural knowledge; of giving it a more assimilated and familiar character; a more obvious and intelligible classification; an arrangement more simple in its principle, but more comprehensive in its compass; of correcting its nomenclature, where correction is called for, and can be accomplished without coercion; of following its distinctive terms as well upwards to their original sources, as downwards to their synonyms in the chief languages of the present day; and thus, not merely of producing a manual for the student, or a text-book for the lecturer, but a book that may stand on the same shelf with, and form a sort of appendix to, our most popular systems of NATURAL HISTORY; and may at the same time be perused by the classical scholar without disgust at that barbarous jargon, with which the language of medicine is so perpetually tesselated; and which every one has complained of for ages, though no one has hitherto endeavoured to remedy it."—p. ii.

He modestly, however, offers the present work as an attempt only towards what is wanted, and proceeds in his introduction to point out the means by which "it may be conducted towards a desirable degree of perfection."

In the first section he takes a view of the chief nosological systems of his predecessors. The arrangement of the more valuable of these has been either according to the synoptic or the systematic method; the nature of each of which is briefly stated by our author, who adds his testimony in favour of the latter, which he conceives has many advantages over the former, "as well in learning as retaining a subject." This method has been variously modified. The simplest of the modifications which have appeared is the *alphabetic*; exemplified in "the very excellent and important work of Dr. Heberden." Another, and of considerable antiquity, is that which is founded on "the duration of diseases, as divided into acute and chronic," displayed in the works of Aretæus, and of Cælius Aurelianus;" a third consists in assorting diseases, according to the parts of the anatomy of the animal frame, "as has been done by Jonston, Sonneret, and Morgagni, and since been recommended by Dr. Mead;"

and a fourth modification is that which has received the term *etiological*, and was "embraced by the schools of Boerhaave, Riverius, and Hoffman," in which the basis of the distribution is, as its name implies, "the supposed causes of diseases." A mixed modification was attempted by Dr. Macbride; but the more celebrated of the modern nosologists have built their systems "upon the *distinctive symptoms* of diseases," as illustrated in the works of Sauvages, Linnéus, and Cullen; and this is the only method, in the opinion of our author, "on which we can place any dependance:" and he fairly supports his opinion by observing, that although the seat and the causes of disease are often obscure, yet their symptoms or pathognomic characters are generally sufficiently uniform and distinctive.

Plater, in whose work, intitled *Praxis Medica*, published in 1602, is given "an imperfect sketch of a symptomatic plan of nosology," may be regarded, says our author,

> "as the morning-star that first glimmered in the hemisphere of symptomatology, as Serveto was in that of the circulation of the blood. The light of both were feeble and tremulous; but it twinkled in the midst of darkness, and led on to the brightness of day."—p. vi.

Sydenham was animated by a similar spirit, and by his treatises and epistles, "stirred up the well-stored and comprehensive mind of Sauvages;" who may be regarded as the greatest of the symptomatic nosologists. His *Nosologia Methodica*, the final and complete edition of which was published in 1768, after his death, is justly styled by our author, "an Herculean labour." It contains three distinct arrangements, "a symptomatical, an etiological, and an anatomical;" and, besides classes, orders, genera, and species, descends to the varieties of diseases, to each of which "are allotted a definition, list of synonyms, history, diagnosis, prognosis, and mode of cure; with, frequently, an exemplification of cases, and a brief statement of the peculiar opinions of other writers." The redundancy, indeed, of Sauvages' work is its chief error; but notwithstanding that, and several faults of pathology, with an occasional want of discrimination, it is a work of general merit and utility; and, as is properly observed, the student who neglects to study it, "neglects one of the most important parts of his education, and which he cannot well supply from any other quarter." The succeeding nosologists were rather improvers upon Sauvages' labours, than originals. LINNÆUS adopted Sauvages' arrangement, altering merely the names of some of the classes and genera, making a new and distinct class of the *exanthematica* of his prototype, and changing the position of the *vitia* from the commencement to the end of the series. VOGEL nearly doubled the number of the genera: he also altered the arrangement of the classes; which he first reduced to nine, by placing the new class of Linnéus and the *phlegmasiæ* of Sauvages under *Febres*; and then raised them to eleven, by the creation of two new classes, under the names *hyperœstheses* and *deformitates*. **Sagar** deviated less than either of the preceding writers, and rather enlarged and modified, than remodelled the arrangement of Sauvages. He again restored the *exanthematica* to the rank of a class, whilst he raised to the same situation the order *plagæ* of his great master, and introduced a new class, denominated *suppressiones*. His work is more complete than either Vogel's or Linnéus's: but our author justly accuses him of verbosity in his definitions, one of which, that of *aphtha*, extends to the extraordinary length of 113 lines. **Cullen**, conceiving that the two former of Sauvages' followers had failed in their attempts at improvement, for the system of Sagar was not yet published, resolved to try his own powers, and to amend Sauvages' classification, in that which they most offended, by adhering to brevity and simplicity in his definitions. He reduced the classes to four, the orders to twenty, and the genera to one hundred and fifty-one, whilst the species were also diminished in an equal ratio. The execution of this attempt was equal to the design.

> "Its aim at simplicity," says Mr. Good, "as well in extent as arrangement, was noble, and bespoke correct views, and a comprehensive mind; it promised a desirable facility to the student, and a chaste finish to the architecture of the nosological temple. The author shewed evidently that he had laboured his attempt in no ordinary degree; and many of his definitions discovered a mastery that had never before been exemplified: pictures painted to the life, and of proper dimensions." —p. xiv.

Notwithstanding this elegant eulogy, our author admits that the system of Cullen "has faults, and insurmountable ones;" and these he endeavours to point out, under the heads of, "1. Defective arrangement. 2. Want of discrimination between genera and species. 3. Looseness of distinctive character in the last general division." We will not follow Mr. Good closely in his critical investigation, but merely notice some of the more prominent objections which he advances.

The tribe of *hæmorrhages*, he observes, "have no direct catenation with any idea suggested by *pyrexy*, in the common use of the term; and Cullen, by placing them under that class, was forced to leave out one half of them. The term *cachexia* he thinks too vague for the name of a class; and although Cullen can plead authority for its adoption, yet, its retention has been the means of introducing "inextricable confusion" among more modern writers. His objection to the class *locales* is still greater: he regards the term as standing "isolated and without relation to its fellow terms;" and remarks, that the idea it suggests shuts out from it "a great proportion of the genera which it is directly intended to comprise;" and which Cullen was "obliged to give a list of at the end of his synopsis, under the title of Catalogus Morborum a nobis omissorum, quos omisisse fortassis non oportebat." He does not admit that part of the author's apology, which states that there was no fit place in the system for many of them, and asserts that this "is a defect from which no time or [nor] labour can relieve it." As a proof of the justice of his charge, he instances the absurdity of placing *psora* and *fractura* in not only the same class, but as "immediate neighbours in the same order;" and humorously adds, that, as Cullen defends himself on the principle that both diseases are "produced by a division of continuity," if a student were asked the question, "why is the itch like a broken bone?" the answer must be, "because it is a dialysis."

In noticing "the confusion of genera and species," in Cullen's Synopsis, our author gives a long, and, in our opinion, unnecessary explanation of the meaning of the term *genus*; and brings his charge against Dr. Cullen, that, in some instances, "he has given genera without any species whatever; and in others again, he has described species under the name of genera." Among other proofs of the correctness of this charge, he instances the definition of Sarcoma as an example, that notwithstanding his general caution "in selecting distinctive symptoms for his definitions," he occasionally offers characters "so general, as to be totally incapable of discriminating the peculiar disease."

> "What sort of tumour, for example, possessing any distinctive features, can we embody to our imagination from the following character, which is the whole that is communicated to us, "extuberatio mollis, non dolens?"—p. xxii.

None of the rival attempts, however, against Cullen were "eminently successful." Among the foreign competitors were *Selle*, *Plouquet*, and *Pinel*. The first Mr. Good stiles "a monogrammist," and adds, that his labours in nosology "are altogether theoretical;" and that "the cloudiness which hangs over his division of fevers, leaves us without regret that he did not complete his entire scheme." The "*Delineatio Systematis Nosologiæ Naturæ Accommodati*," published by Plouquet in 1790, he regards as "too complicated," and not free from nebulosities: and although he praises Pinel's monographic attempt in his treatise on mental alienations; yet, the more general attempt of the same writer, *Philosophical Nosography*, he considers "too refined for popular use, and too indistinct for practical benefit." We are surprized that among the more distinguished of the foreign rivals of our learned countryman, Mr. Good has entirely overlooked M Swediaur, whose last work "IATPIKH, seu Novum NosologiæMethodicæ Systema*," published in 1812, independently of its certainly fully meriting attention, ought to have been noticed as being the most recent nosological work, previous to the appearance of our author's own attempt. We are the more astonished at this oversight, when we consider the parallel which may be drawn between the erudition of our author and that of M. Swediaur; and notice the coincidence of their opinions regarding the merits of Sauvages and Cullen.

The first of our own countrymen who attempted to improve on the Cullenian system was Dr. Macbride. His work, which was published in 1772, is merely a nosological table, embracing the divisions of genera and species, except in the order of Vesaniæ; but void of definitions. Our author considers it worthy of attention, and although very defective in the classes, yet, exhibiting great skill in the arrangement of the genera and species. Another similar table, accompanied by definitions, was published by Dr. Crichton, in which, besides the four classes of Cullen, there are four added, to which he has given the names *Hæmorrhagiæ*, *Fluxus*, *Intumescentiæ*, *Epischeses*. Mr. Good observes, that it exhibits far less precision in the generic and specific distinctions, than the table of Dr. Macbride: and in the subdivisions of the class *locales*, which he has retained, he has not been more successful than his predecessors.

The Zoonomia of Darwin, which, in order of time, should have been noticed before Dr. Crichton's table, is next mentioned by Mr. Good. He characterises its author as "a man of great genius, daring imagination, and extensive reading:" but who would "rather think wrong with himself, than right with other people." His nosological system is founded upon his physiological principles, of which our author gives a brief but very neat exposition. The character for the *classes* in Darwin's system is taken from the *proximate cause;* that of the *orders*, from the "excess, deficiency, or retrograde action, or other *properties* of the proximate cause;" that of the *genus* from the proximate *effect;* and that of the species from the "*locality* of the disease in the system." The difference of ideas attached to these terms, however, had there been no other objections, would, our author justly remarks, "have been an effectual bar to Dr. Darwin's system ever becoming popular:" but he chiefly objects to it from the entire basis being theoretical, and often visionary.

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* For an analysis of Swediaur's work, and we believe it is the only notice that has been taken of it in Great Britain, see *Repository*, vol. i. p. 135 and 233.

> "But the direct death-warrant of the system consists in his making every single proximate effect (in common language proximate cause, or symptom) a distinct disease; for as the same proximate effect or symptom may be produced by several, or by each of what Darwin calls proximate causes, and which constitute his classes, it follows that the very same species or specific disease must in such cases belong equally to some order or other of several, or of all the classes of his system."—p. xxix.

The validity of these objections cannot be denied, and we must join Mr. Good in lamenting, that so much genius, learning, and industry, as Darwin possessed, "should have been productive of so small a result."

The notice of the article *Nosology*, in Dr. Parr's Medical Dictionary, gives rise to some handsome and deserved compliments on the learning and merits of its author. In drawing up that outline of his system of diseases, the Doctor endeavoured to combine the advantages of Selles' method of nosology, "and the botanical method of Jussieu:" hence his primary division, instead of being classes, consists "of what he intended to be *natural orders or families*." The attempt was a bold one, but Mr. Good properly doubts of its practicability; yet, whilst he condemns the "licentious generalization" which it displays, he regards the example as "good upon the whole, well worthy of study, and, in various cases, of imitation."

Our author slightly glances at Dr. Young's nosological sketch, in his *Introduction to Medical Literature*, remarking, that his ideas of what ought to form the basis of a nosological system, are in strict unison with his own; and admits, that "the arrangement of Dr. Young, while essentially distinct" from his own, "will be found, perhaps, to make the nearest approach to it of any that have hitherto appeared." Having finished his review of the general nosologists, our author slightly notices the more limited arrangements of *Plenck*, *Willan*, *Abernethy*, and *Bateman*. The first of these he properly regards as an industrious rather than a discriminative writer; he eulogizes the performance of the second, as being strictly original; and, whilst he laments that Dr. Willan did not live to finish his task, he bestows the just meed of praise on Dr. Bateman, whose able and judicious labours have "served in no small degree to abate the general disappointment;" and of Mr. Abernethy's classification of tumours, he observes: "this classification is strictly symptomatic, the characters being derived, as they

"The common prefixes are uniformly Greek, and are as follow:

A	*α*
ap, ap'	*απο‛ απ'*
aph'	*αφ'*
caco, cac'	*κακο, κακ'*
cata, cat'	*κατα, κατ'*
dia	*δια*
dys	*δυς*
ec, ex	*εκ, εξ*
en	*εν*
epi, ep'	*επι, επ'*
eph'	*εφ'*
hyper	*υπερ*
hypo	*ὑπο*
para, par'	*παρα, παρ'*
peri	*περι*
syn, sym, sy'	*συν, συμ, συ'*."—p. lvii.

Mr. Good thinks these auxiliaries are far too numerous, and therefore proceeds to cut them down. Among the suffixes, *Algia*, *copus*, and *odyne*, being direct synonyms, all expressing, when superadded, the general idea of pain or ache; and in some respects *agra* also; he proposes to retain algia only, "with the exception of agra in the single instance of pod-agra, which," he remarks, "cannot readily be dismissed;" and *odynia* in parodynia, as the suffix is the root itself. We confess, that whilst we admit the propriety of parodynia, we do not feel the necessity of retaining agra, as a suffix even in the instance pointed out, and more particularly as we have the authority of Dioscorides for the employment of the term pod-algia. *Esis*, *osis*, *itis*, *ana*, *iasis*, and *igo*, are little more than terminating synonyms; but custom or accident has given a peculiar meaning to some of them, which obliges them to be retained. *Asma* in its original sense, and its varieties *asmus*, *esmus*, and *ismus*, were at first employed to denote the idea conveyed by the Greek original, *ἆσμα*; as in "the terms phantasma, enthusiasmus, phricasmus, marasmus," &c.; but they were afterwards employed as mere terminals, without regard to the original sense, as in tenesmus, rheumatismus, and ptyalismus; and have since been used in such a multiplicity of senses, that in Mr. Good's opinion, the less frequently "they are" employed the better. As *Cele*, which implies a yielding tumor; *Rhagia*, which is an elision of hæmor-rhagia, and *rhæa*, still retain their original meanings, they "may," he observes, "remain untouched, and are sufficiently correct in their present use;" as is also *Odes*, which is probably derived from *ὥδε*, and uniformly imports *like* or *akin to* the subject with which it is connected; as in typhodes, icterodes, phlegmonodes. *Illa*, *ula*, *illaris*, *ularis*, are, he conceives, probably derived from the Greek ὑλη, importing of the make or nature of, as in pupilla or pupula, pustula, fibula: but they are occasionally confounded by medical writers with their opposing suffix, *osus*; and hence we find cellularis, "having little cells," written as the synonym of cellulosus, "full of cells."

The *Prefixes*, Mr. Good remarks, "have far less generally departed from their original sense," although they have been loosely employed: "thus *a*, *caco*, *dys*, and *para*," are all primitive or debasing; "*ec*, *ex*, *epi*, *hyper*," augmentive or elevating; but they are separated by shades of difference, which he has satisfactorily pointed out. He thinks the whole of the privations, with the exception of *a*, may be spared; and *en* adopted, as perfectly sufficient to form its contrast, and to supply the place of the other augmentives. Sufficient reasons are stated to shew that *cata* and *asso* may also be well spared; but no objection can be made to retaining *peri*, *dia*, and *syn*, with its derivatives *sym* and *sy*, as they are all uniformly expressive of one leading idea. Our author condemns Dr. Young, for having "prefixed the preposition *para*, importing diseased action," to the name of almost all his classes; and regards it as "a pleonasm; for in a system directly nosological, *para* is necessarily implied in every instance." He himself has altogether avoided employing them in denominating his classes, although in his orders, and more frequently in his generic terms, he has occasionally had recourse to such assistance.

For the same reason that "the component parts of a term ought to be restricted to a precise and individual meaning, so," our author justly remarks, "ought the entire term, whether compound or single:" and he points out the confusion into which nosological writers have fallen by not adhering to this rule. He particularly dilates on the use of the terms *paroxysm*, *exacerbation*, *accession*, and *crisis*; but as it is not easy to follow our author through his reasoning, without being more minute than the nature of our analysis admits, we will merely extract what he says regarding his own employment of these terms.

"It is high time, then, that an exact sense should be fixed for the whole of this group of terms; and with a view of accomplishing this object, as far as he is able, the author will be found in the ensuing pages uniformly to employ, 1. *paroxysm*, as importing the entire duration of a fit of acute disease of any kind, whether the interval be perfectly or imperfectly free: 2. *exacerbation*, as signifying the paroxysm of a disease, whose intervals are merely imperfect or remissive; which is the strict meaning of paroxysm when literally rendered: and 3. *accession*, as indicating the commencement or onset of an exacerbation or paroxysm of any kind; which restores the term to its radical idea; whilst he has omitted the use of the term *crisis*, as neither wanted nor conveying in the present day any determinate sense."—p. lxxvi.

Having finished his remarks regarding the improvements, which he assumes his work presents, in the language of Nosology, our author next enters upon the more important object of his system, an attempt at " an improvement in the ARRANGEMENT of diseases."

Haller first conceived the idea of uniting anatomy and physiology into one common pursuit; but no systematic step had been hitherto taken to combine with these the study of Nosology. To accomplish this desirable object is the aim of Mr. Good's labours, in the System before us; and, as the track is new, he reasonably claims indulgence for its execution. As our author had conceived the possibility of founding his primary divisions on a physiological basis, he determined " to take at once the animal frame in its mature and perfect state, and trace it, from some well defined and prominent function, through all the rest:" whilst he seized " the more important of their respective organs for his secondary or ordinal" divisions. On these principles, the diseases to which the *Digestive Function* is subject would necessarily occupy the first class; those of *Respiration* the second; and those of the *Sanguineous Function* the third; whilst the diseases of the *Nervous*, the *Sexual*, and the *Excernent Functions*, would form the subject of the fourth, fifth, and sixth classes. It still, however, remained to " create a class for *external accidents*, and those *accidental misformations* which occasionally disfigure the fœtus in the womb; and in constituting this as a seventh class, Mr. Good believes that his system is calculated to include " all the long list of diseases" which humanity is heir to.

The orders, as we have already noticed, are taken from the organs that belong " to the classific functions, with the exception of the third class, in which they are derived from the peculiarity of the vascular action, and the temperament of the circulating fluid." With regard to the genera, which amount to one hundred and thirty only, several of them are new; an attempt having been made to reduce many of the genera of other nosologists, which our author conceives ought never to have been regarded otherwise than " in the light of mere species: for a genus," he correctly observes, " is no disease whatever, any more than it is an animal or a vegetable." In forming the species and varieties, he has been chiefly guided by the custom of botanists, who consider those plants species which propagate others similar to themselves; and varieties, those in which climate or soil have occasioned some change; but the progeny of which may either resemble the immediate parent or original species, according to circumstances: and thus in Nosology, *variola*, which is a true species, although regarded by Cullen as a genus, has its varieties *discreta* and *confluens*; the infection of either of which being capable of producing the one or the other as the habit of the patient, the treatment, or accident may direct.

Our author having laid it down as a principle of his arrangement, that the class of the disease "is determined from the *general function* that is injured," he found it necessary to state that,

> "where two general functions are injured at the same time, that constitutes the class which appears to be most prominently affected. Thus strophula, and scabies, which seldom extend deeper than the secretory vessels of the skin, belong necessarily to the class ECCRITICA, or that comprising diseases of the EXCERNENT FUNCTION; while variola and rubeola, though equally occupying the surface, belong to the class HÆMATICA, or the diseases of the SANGUINEOUS FUNCTION; which, in both these cases, is primarily and chiefly affected, as is obvious from the pyrèctic action of the heart and arteries. So while gastritis and enteritis belong also, as inflammatory affections, to the HÆMATIC class, dyspepsy and cholera, though disorders of the same organs, must necessarily be referred to the class CŒLIACA, or that comprising the diseases of the DIGESTIVE FUNCTION, this being the part of the animal economy which is hereby chiefly or wholly disordered."—p. lxxxvii.

Mr. Good has suppressed entirely the family *Dolores* or *Local Pains*, and distributed the genera and species belonging to it, "as mere symptomatic affections, under other heads:" and nothing can be more demonstrative of the propriety of this step, than the difficulties which those nosologists who have retained the order, have laboured under, "in fixing its contents and boundaries."

To add to the utility of the work, the systematic name of every disease has subjoined to it "its chief technical and vernacular synonyms." The latter he has confined to six languages; three modern, English, German, and French, and three ancient, Greek, Latin, and Arabic. As far as the Arabic is concerned, this attempt is perfectly new; for although Sauvages and several of the German nosologists have occasionally given the Arabic synonyms, yet, these are printed only in Roman characters, and "not unfrequently with great inaccuracy." The importance of this part of his labours, our author defends, by observing that the Arabic

> "was the chief depository of learning, and particularly of medical learning, in Europe, as well as in Asia and Africa, during the dark ages; and has descended as a living language, without any great variation, to the present day."—p. xci.

For performing well this part of his task, the great lexicographical learning and previous studies of Mr. Good have admirably fitted him; and we believe we may venture to assert, that no other individual in the profession could have attempted the task. The following passage will afford a favourable specimen of the manner in which this subject is handled in the preliminary dissertation:

"Coryza, more literally koryza (κορυζα), is a term of Hippocrates, to express gravedo, or cold in the head. The grammarians have hunted in vain for its derivation, and it is now usually allowed to stand in the lexicons as a Greek radix. It is found, however, almost all over the East in tongues and dialects of higher antiquity than the Greek, importing uniformly cold, or the effects of cold. In Hebrew it is *koris* and signifies "constriction or condensation;" in Chaldea, *koryza*, the Greek term without the alteration of a letter, and is strictly "*cold, algor*, or *frigus*." It is precisely the same in Syriac, *koryza*, and is employed in this exact sense in the Syriac New Testament, John xviii. 18, and various other passages; while in Arabic we meet with it under the Hebrew form, *koris*, embracing the double idea of cold and condensation, or infarction, and consequently including both the cause and effect."—p. xcvi.*

The attention which is now generally bestowed on oriental literature may, ere long, excite the Medical Philosopher to the cultivation of its various dialects; but we cannot go along with Mr. Good in asserting, that "no one ought to pretend to a scientific acquaintance with cutaneous diseases who has not studied Serapion, nor with a practical history of small-pox or the diseases of children, who has not read the pages of Rhazes."

Our author concludes his Introduction by observing that he "has digested his notes into a running commentary, which he has endeavoured to render replete with interesting cases, valuable hints or remarks, and singular physiological facts," gleaned from the best ancient and modern authorities.

Having thus given the general outline of Mr. Good's system, as displayed in his preliminary discourse, we will now endeavour to lay an analysis of part of it before our readers, so as to enable them to form a correct opinion of its merits; and at the same time offer such suggestions as may occur to us in the course of our examination. Its primary divisions have been already noticed.

The first class, Cœliaca, *Diseases of the Digestive Function*, contains two orders. The first order, Enterica, *affecting the alimentary canal*, is defined, "Disquiet, or diseased action in some part of the passage for the reception and detrition of the food:" and embraces thirteen genera. Of the first genus

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* The Hebrew, Chaldaic, and Syriac, are printed in the original, in the characters of these languages.

ODONTIA, "Pain or derangement of the teeth or their sockets," we have very little to notice. It comprehends ſeven species, viz. 1. *Dentitionis*; 2. *Dolorosa*. Our author remarks that the last species occurs as a symptom, in scurvy (porphyra), erratic gout, and hysteric diathesis: and he might have added, is often confounded with rheumatism, which attacking the jaw, gives the suspicion of a carious tooth where none exists. The other species are 3. *Stuporis*; 4. *Deformis*; 5. *Edentula*; 6. *Incrustans*; 7. *Excrescens*. We doubt the propriety of placing this last as a species of Odontia if we regard the strict meaning of the definition. The seat of the disease is neither in the teeth nor their sockets, but in the gums alone. The second genus, PTYALISMUS, "Involuntary flow of saliva from the mouth," contains three species: 1. *Acutus*; 2. *Chronicus*; 3. *Iners*. The third genus, DYSPHAGIA, is defined, "Pain or obstruction in swallowing without inflammation, and mostly without impeded respiration." Our author enumerates five species: 1. *Constricta*; 2. *Atonica*; 3. *Globosa*; 4. *Uvulosa*; 5. *Linguosa*: but, aware that the third may be objected to, he has added a note, in which he observes, that this affection "is by no means a mere symptom of hysteria;" as it is produced by grief, fear, and anger, and is often an "attendant upon the hypochondriacal diathesis." How far this reasoning is conclusive we leave to the decision of our readers. The correctness of the name of the fourth genus, DIPSOSIS, which is defined, "The desire for drinking excessive or impaired,' is perhaps questionable, as far as referred to the latter part of the definition: yet, we confess we cannot propose a more comprehensive term. Its species are two: 1. *Avens*; and 2. *Expers*. The fifth genus, LIMOSIS, "The appetite for food impaired, excessive, or depraved," comprehends seven species: 1. *Avens*; 2. *Expers*; 3. *Pica*; 4. *Cardialgia*; 5. *Flatus*; 6. *Emesis*; and 7. *Dyspepsia*; which is properly reduced from a genus, as which it is found in Cullen s Synopsis. To our author s definition, which is "The appetite fastidious, and the food digested with difficulty;" we would add, after the word fastidious, "and irregular." Under genus sixth, COLICA, "griping pain in the bowels, chiefly about the navel, with vomiting and costiveness;" we find six species: 1. *Ileus*; 2. *Rachialgia*, the Colica pictonum of Cullen; 3. *Crapulosa*; 4. *Flatulenta*; 5. *Stipata*; 6. *Callosa*, generally arising from scirrho-contracted rectum. In a note on the variety venenata of C. Rachialgia, Painter's colic, Mr. Good observes he has seen the disease produced by merely sleeping in newly painted rooms. The seventh genus, COPROSTASIS, "obstinate retention of feces in the intestines," contains two species only: 1. *Coacta*; and 2. *Astricta*. The placing DYSENTERIA, the eighth genus, as a genus of this class is certainly exceptionable; and the author, sensible that objections would be started, admits that the febrile species of the disease, which he denominates D. *Pyrectica*, might have been "introduced under the class Pyrectica," Fevers, "but it would be repugnant "to all rules of correct classification" to separate it from its fellow species, D. *Simplex*. Now, in our opinion, the definition of this latter species is at variance with that of the genus; as may be seen in the following contrast:

DYSENTERIA.	1. D. SIMPLEX.
"Griping and tenesmus; frequent, mucous, and often bloody dejections; the feces seldom discharged, and in small quantities."	"Unaccompanied with fever; the feces, when discharged, evacuated without considerable pain, of a natural quality, and affording ease."

D. Simplex, indeed, according to this definition of it, properly belongs to the genus Diarrhœa of our author's arrangement; and might perhaps have been placed as a variety of the species *Fusa*, whilst his second species *Pyrectica*, which is true dysentery, should have been placed as a species of EMPRESMA, the seventh genus of the order PHLOGOTICA, Inflammations, in the class HÆMATICA, the third of the System.

The ninth genus, DIARRHŒA, thus defined: "Alvine evacuations, crude, loose, and too frequent; with little or no griping or tenesmus," contains six species: 1. *Fusa*; 2. *Biliosa*; 3. *Mucosa*; 4. *Chylosa*; 5. *Lienteria*; and 6. *Serosa*. Under CHOLERA, the tenth genus, the definition of which is a translation of that of Cullen, we find three species; 1. *Vulgaris*; 2. *Flatulenta*; 3. *Spasmodica*. The eleventh genus is named ENTEROLITHUS, "Stony concretions in the stomach or intestinal canal:" and comprehends three species; 1. *Bezoardus*; 2. *Calculus*; and 3. *Scybalum*. The twelfth genus, HELMINTHEA, "Worms, or larves of insects, inhabiting the stomach or intestines," with its species, *Alvi*, *Podicis*, and *Erratica*, contains some curious and valuable observations. The thirteenth, and last genus of the order, PROCTICA, is defined, "Pain or derangement about the anus, without primary inflammation;" and contains, as species, 1. *Simplex*; 2. *Callosa*; 3. *Tenesmus*; 4. *Marisca*, and 5. *Exania*; one variety of which, Spasmodica, in which the prolapsed portion of intestine is constricted by a spasm of the sphincter, has "been frequently mistaken for a marisca;" but, as our author observes, "the hæmorrhoidal tumour is dull and livid; that from a prolapse of the anus is flesh-coloured, sometimes wrinkled, at others smooth and shining.

The second order of this class, SPLANCHNICA, diseases "*affecting the collatitious viscera*," is thus defined: "Disquiet, or diseased action in the organs auxiliary to the digestive process; without primary inflammation." It is a very limited order, containing four genera only. The species of the first genus, ICTERUS, the definition of which is that of Cullen, with the addition, "the course of the bile obstructed," are, 1. *Cholœus*; 2. *Chololithicus*; 3. *Spasmodicus*; 4. *Hepaticus*; and 5. *Infantum*; which last we think might have been with propriety placed as a variety of the first species. Genus second, MELÆNA; has two species 1. *Cholœa*; 2. *Cruenta*. The propriety of making the colour of the eyes and skin, which are said to be "fuliginous, leaden or livid," part of the generic character of the diseases referred to this genus, might perhaps be questioned; as the same effect has been produced by the internal exhibition of nitrate of silver, without the accompanying affection of the stomach and bowels. We do not, however, object either to the name or the definition, as both appears to be necessary in contradistinction to Icterus. Genus third, CHOLOLITHUS, *Gallstone*: species, 1. *Quiéscens*; 2. *Means*. Our author has properly followed the example of Dr. Young in making this a distinct genus. Mr. Good prefers the term PARABYSMA, which he has given to the next genus, the fourth of this order, to Pysconia: the latter, he remarks, "having been used so generally as to convey no definite idea whatever." He divides the genus into seven species: 1. *Hepaticum*; 2. *Splenicum*; 3. *Pancreaticum*; 4. *Mesentericum*; 5. *Intestinale*; 6. *Omentale*; and 7. *Complicatum*.

Such is the arrangement of the first class of this System. The second class, PNEUMATICA, *Diseases of the respiratory functions*, is also divided into two orders, Phonica and Pneumonica. The first PHONICA, "*Affecting the vocal avenues*, is thus defined: "The passage of the voice impeded; or its power suppressed or depraved." It contains six genera. In the three first are arranged diseases chiefly affecting the breathing. First genus, CORYZA, *Running at the nose*; species 1. *Entonica*; 2. *Atonica*: second genus, POLYPUS; species 1. *Plasticus*; 2. *Coriáceus*: third genus, RHONUS; species 1. *Stertor*; 2. *Cerchnus*. The three following contain all the diseases that affect the power of speech. Genus fourth, APHONIA, "Inability of speech;" species 1. *Elinguium*; 2. *Atonica*; 3. *Surdorum*. Fifth genus, DYSPHONIA, "the sound of the voice imperfect or depraved;" species 1. *Susúrrans*; 2. *Puberum*; 3. *Immodulata*. Sixth genus, PSELLISMUS, "the articulation imperfect or depraved;" species 1. *Bambalia*; 2. *Blæsitas*. In the second order, PNEUMONICA, *Affecting the lungs, their membranes, or motive power*, which is defined, "Respiration irregular, impeded, or painful," we find also six genera. The first, which is well named BEX, from Βηξ, tussis, has three species; 1. *Humida*; 2. *Sicca*; 3. *Convulsiva*. We doubt the propriety of the appellation of the last species, as exclusively applied to hooping-cough, infants being liable to a convulsive cough, which has been occasionally mistaken for hooping cough; but is not contagious, nor attended with any degree of fever. Perhaps the addition *contagiosa* to the former, would sufficiently distinguish the two species. Second genus, DYSPNŒA; species, 1. *Chronica*; 2. *Exacerbans*. Third genus, ASTHMA; species, 1. *Siccum*; 2. *Humidum*. Genus fourth, EPHIALTES, which our author has properly restored "to the family of Anhelations; is thus well defined, sighing, suffocative anhelation, with intercepted utterance, and a sense of some external substance pressing heavily on the chest, transitory." The species are, 1. *Vigilantium*; 2. *Nocturnus*. Genus fifth, STERNALGIA, the Angina Pectoris of Heberden; species, 1. *Ambulantium*; 2. *Chronica*. Genus sixth, PLEURALGIA, *Pain in the side*; species, 1. *Acuta*; 2. *Chronica*.

The third class of our author's arrangement, the most important of the System, is denominated, HÆMATICA, "*diseases of the sanguineous function*;" and contains four orders. The first order, PYRECTICA, *Fevers*, comprehends four genera. Its definition, which is an improvement upon that of Cullen, taking in the addition of Sauvages' "madore in declinatione," omitted by the former author, runs thus, "Heat and number of the pulse preternaturally augmented; usually preceded by rigor, and followed by perspiration; pains fixed or wandering; lassitude; debility of mind, and voluntary muscles." The first of the genera is EPHEMERA, and contains, as species, 1. *Mitis*; 2. *Acuta*; and 3. *Sudatória*. The name ANETUS, 'Ανετος, from ἀνίημι, intermitto, which our author has given to the second genus, is certainly highly descriptive of the chief character of the family, the Latin term intermittentes being excluded by his rules of nomenclature. Besides the species *quotidianus*, *tertianus*, *quartanus*, and *erráticus*, enumerated by Cullen, a fifth, *complicatus*, is added, which includes the double and triple modifications of the former species. EPANETUS, remittent fever, the third genus, ranks as species, 1. *Mitis*; 2. *Malignus*; and 3. *Hectica*. Genus fourth, ENECIA, continued fever, includes, 1. *Cauma*, which is the synocha of Sauvages and Cullen; 2. *Typhus*; and 3. *Synochus*.

The second order, PHLOGOTICA, inflammations, is thus defined:—"Fixed heat and pain, or soreness; increased secretion, lesion of a particular part or organ; mostly accompanied with fever." APOSTEMA, *Aposteme*, the first genus, contains five species, 1. *Commune*; 2. *Psoaticum*; 3. *Hepaticum*; 4. *Empyema*; 5. *Vomica*. Those of the second genus, PHLEGMONE, which term is used "to denote an inflamed subcutaneous," (perhaps external would be here a more correct word,) "perfectly suppurative tumour," are, 1. *Communis*; 2. *Parulis*; 3. *Auris*; 4. *Parotidea*; 5. *Mammæ*; 6. *Bubo*; and 7. *Phimotica*. In genus third, PHYMA, no first species is noticed, which we imagine arises either from an omission or a mistake in numbering, as *Hordeolum* is marked 2; *Furunculus* 3;

Sycosis 4; and 5. *Anthrax.* The fourth genus, IONTHUS, has two species only, *Varus* and *Corymbifer;* and the fifth, PHLYSIS, are only *Paronychia.* The sixth genus, ERYTHEMA, contains six species, 1. *Œdematosum;* 2. *Erysipelatosum;* 3 *Gangrænosum;* 4. *Vesiculare;* 5. *Pernio;* and 6. *Intertrigo.* Under EMPRESMA, which is the seventh genus of this order, we find all the deep seated visceral inflammations, as 1. *Cephalitis,* the Phrenitis of Sauvages and his imitators; 2. *Otitis;* 3. *Parotitis;* 4. *Paristhmitis,* the Cynanche of Sauvages and Cullen; 5. *Bronchitis;* which is here used, how properly we are undecided, to denote croup; 6. *Pneumonitis;* 7. *Pleuritis;* 8. *Carditis;* 9. *Peritonitis,* in which we are of opinion our author should have placed puerperal fever as a variety; but he has preferred placing it under Enecia, as a variety of Synochus; while, again, in a remark on this species (Peritonitis) he observes, "it (puerperal fever) belongs rather to typhus;" 10. *Gastritis;* 11. *Enteritis;* 12. *Hepatitis;* 13. *Splenitis;* 14. *Nephritis;* 15. *Cystitis;* 16. *Hysteritis;* and 17. *Orchitis,* inflammation of the testicle. After this display, we were surprized to find OPHTHALMIA constituting a distinct genus, the eighth; but our author states as a reason, that, "it has various characters peculiar to itself, as well in regard to its symptoms as to the seat of the organ, which seem to entitle it to the rank of a distinct genus." Its species are, 1. *Taraxis;* 2. *Purulenta,* 3. *Glutinosa;* and 4. *Chronica.* The ninth genus, CATARRHUS has two species only, 1. *Communis,* and 2. *Epidemicus.* The next genus, SPARGANOSIS, which has one species only, *Puerperarum,* the phlegmatia dolens of Dr. Hull, should, perhaps, have been placed rather as a species of the next genus, ARTHROSIA. As far as our experience goes, it appears to attack those only of a rheumatic diathesis; and, if we can depend on a single dissection, the result of which will probably soon be laid before the public*, we might perhaps venture to pronounce the disease *rheumatic* inflammation of the coats of the veins of the leg. Hence the intermittent character of the attendant fever, and of the pain; hence the peculiar state of the urine on the decline of the paroxysm; and the great relief which is obtained from the application of leeches. The species of ANTHROSIA noticed by Mr. Good are, 1. *Acuta,* acute rheumatism; in the definition of which he has particularly noticed the deposition of the urine, which he denominates "laterious;" but which is rather of a pink colour, and is that modification of the uric acid that has been regarded as a distinct acid, and named the rosacic. 2. *Chronica;* 3. *Podagra;* and 4. *Hydarthrus,* white swelling.

Order third comprehends the EXANTHEMATICA; *eruptive*

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* The case we refer to occurred in the practice of Dr. Davis; and the limb, *post mortem,* was examined by Mr. Lawrence.

fevers, cutaneous eruptions essentially accompanied with fever. The first genus, Enanthesis, contains, as species, 1. *Rosalia*, scarlet fever; 2. *Rubeola;* and 3. *Urticaria.* The second genus, Emphlysis, has, 1. *Miliaria;* 2. *Aphtha;* 3. *Vaccinia;* 4. *Varicella;* 5. *Pemphigus;* and 6. *Erysipelas.* The third, Emphysis, has *Variola*, alone; and the fourth, Anthracia, carbuncular exanthem, 1. *Pestis;* and 2. *Rubula*, yaws.

The fourth and last order of this class, Dysthetica, cachexies, is defined, "morbid state of the blood or blood-vessels alone, or connected with a morbid state of other fluids, producing a diseased habit;" a useful limitation of the term cachexy, and well calculated to prevent much of the confusion occasioned by the variety of significations in which it has been used by modern nosologists. "In Sauvages, Vogel, Sagar, and Cullen," Mr. Good remarks, "it occurs as the name of a class; but, under each of them, is made to embrace very different diseases; the classific character being sometimes depraved external colour alone; sometimes depraved colour and form; sometimes depraved colour, form, and size;" and sometimes, "depraved habit of the whole or a great part of the body," without noticing the three preceding qualities. The first genus, Plethora, is divided into *Entonica* and *Atonica.* Hæmorrhagia, the second genus, contains, as species, 1. *Activa;* 2. *Passiva;* 3. *Vicaria:* and Marasmus, the third, 1. *Atrophia;* 2. *Tabes;* and 3. *Phthisis;* which, perhaps, would have been more correctly placed as a species of Struma. The species of the fourth genus, Cyrtosis, which signifies generally curvation, are, 1. *Cretinismus*, and 2. *Rhachia*, rickets. Under the fifth genus, Alphosis, which is defined, "Cuticle among negroes, white and colourless; hair white and woolly; irids white; pupils rosy; sight strongest in the shade; corporeal faculties feeble; mind impaired;" no species are put down, an omission which excludes it altogether from the system on Mr. Good's own principles; as the varieties are without a disease to belong to. "for a genus," to use his own words, which we have already quoted, "is no disease whatever, any more than it is an animal or a vegetable." Genus sixth, Struma, contains two species; 1. *Vulgaris;* 2. *Mesenterica.* Genus seventh, Carcinus, one only, viz. *Vulgaris:* and genus eighth, Lues, two; 1. *Syphilis;* 2. *Syphilodes.* The last, however, does not altogether accord with that part of the definition of the genus which refers the genital ulcers to "impure coition." Genus ninth, Elephantiasis, is separated from the next genus, Bucnemia, which we must still, however, regard as merely a species of Elephantiasis, and is defined, "skin thick, livid, rugose tuberculated; insensible to feeling; eyes fierce and staring; perspiration highly offensive." Its species are, 1. *Arabica*, 2. *Italica*, and 3. *Asturiensis.* We doubt the propriety of ranking the second, which is the *Pelagra* of the Italian physicians, in this genus. It is a highly inflammatory affection, but can scarcely be regarded as tubercular, the skin being simply, at first, red and shining, and then cracking into innumerable divisions, each of which from the edges turning up, assumes a cup-like aspect. In Mr. Good's definition, also, the disease is stated to appear " chiefly on the body and limbs," and to be "hereditary;" whereas it has rarely, if ever, been known to affect the legs or the feet, although these are exposed; but is confined to the hands and wrist, occasionally attacking the chest; and we believe we may venture to assert that it is not hereditary. The eleventh genus, CATACAUSIS, " General combustibility of the body," our author has introduced on Dr. Young's authority. It comprehends one species only, *Ebriosa*. PORPHYRA, Scurvy, the next genus, contains three species; 1. *Simplex*; 2. *Hæmorrhagica;* and 3. *Nautica*. The thirteenth genus, EXANGIA, has, as species, *Aneurisma* and *Varix*: the fourteenth, GANGRÆNA. 1. *Sphacelus*; 2. *Necrosis*; 3. *Caries*; and 4. *Ustilaginea*; and the fifteenth, ULCUS, which is the last of the order 1. *Incarnans*; 2. *Vitiosus*; 3. *Sinuosus*; 4. *Tuberculosus*; and 5. *Cariosus*.

We have already so far extended this article, that we cannot follow Mr. Good through the arrangement of his four remaining classes, NEUROTICA, GENETICA, ECCRITICA, and TYCHICA. What we have done will, we trust, be sufficient to direct the attention of our readers to the work itself; which, from its being written in English, is very likely to give a new impulse to, and render more general, the study of Nosology; an event of no small importance towards the advancement of Medical Science. The notes are altogether extremely valuable, being both amusing and instructive; and display, in a striking manner, the extent of the author's reading. The style of the volume throughout is easy, and sufficiently pure; but we cannot avoid observing the bad taste, which Mr. Good frequently displays in the employment of metaphor, or when he is desirous of saying what he would wish to have considered a smart thing. We subjoin one or two instances in proof of the justness of our accusation.

Thus, speaking of the difficulties Cullen experienced in bringing the tribe of Hæmorrhages into the class *Pyrexia*, and observing that he was obliged to leave out one half of them, Mr. Goods adds, " or rather to banish them for contumacy;" —and again, " they exhibit a wide and lamentable divorce." The diseases, which the true idea attached to the term *locales*, shuts out from that class, are said " to wander about from class to class, trying in vain for entrance, like the wretched ghosts of the idle and inglorious in the INFERNO of Dante."—

p. xvii. We are too dull to understand the phrase, "frozen strings of a violin."—p. xlix.

But, in a work of such magnitude as a Nosological System, minor faults must not be too scrupulously noted. We have marked some of a different character in the portion of the arrangement that has been brought before our readers, and more could be pointed out in the remaining classes: if, however, there be something to blame, there is much more to praise; and we desire rather to introduce the volume to the notice of the Profession, than to expose its errors. We have no doubt Mr. Good will court the critical remarks and suggestions of his brethren, and from them, under guidance of his own matured judgment, endeavour to perfect that edifice he has reared. The very undertaking of such an Herculean labour requires an energy of mind with which few are gifted; and merits the meed of commendation; and the work, even such as it is, will secure to its author an enviable celebrity.

III.

Observations on the Projected Bill for restricting the Practice of Surgery and Midwifery to Members of the Royal Colleges of London, Edinburgh, and Dublin; and to Army and Navy Surgeons: with some Modifications proposed, by which the Measure will be more compatible with the true Interests of the Public, *and not oppressive to the present Race of Pupils for the Profession.* By a General Practitioner, 8vo. pp. 31. London, 1816. Bent.

A Letter to Sir William Garrow, His Majesty's Attorney General, on his proposed Bill for regulating the Practice of Surgery throughout the United Kingdom of Great Britain and Ireland. By James Hamilton, M.D. Fellow of the Roy. College of Physicians, Edinburgh, and Professor of Midwifery in the University of Edinburgh, 4to. pp. 21. Edin. 1817. Murray and Cochrane.

The pending "*Bill for regulating the Practice of Surgery throughout the United Kingdom of Great Britain and Ireland,*" appears to have excited considerable interest. Our contemporaries in England have not been sparing of their comments upon this measure, nor has it escaped the animadversions of our Irish and Scotch brethren.

The "*Observations of the General Practitioner*" chiefly apply to the great and unnecessary expense which the present regulations of the London College of Surgeons impose upon medical students; and which, the writer thinks, must tend to limit "the supply of men of education and competence" for the profession; and hence be injurious to the public interests.

He next inquires if "there is any real necessity for increased attendance previously to examination? and for increased fees for the diploma, when obtained?" and, aware of the scantiness of the pecuniary resources of medical students, he is fearful lest the preliminary attendance on hospital practice, lectures, &c. and the present fees of *thirty-two pounds ten shillings*, or of *twenty-two pounds* for a diploma, will, when made by law compulsory, prove more than the generality of pupils can afford to pay. These apprehensions may have a just foundation; and, in regard to the period of attendance on hospitals, and the requisite number of courses of lectures, much may be said. If the Examiners have found from experience, that the attendance was so limited that the candidates are generally and consequently deficient in knowledge, they do right to prescribe a longer course of studies. It must ever prove impossible to define the exact time in which a student can acquire that stock of information which will enable him to sustain a good examination. Genius, education, and the degree of industry exercised, create a difference; but, *cæteris paribus*, in a given period, no two students can attain an equal state of perfection. It has been contended, that it matters not how short a time a student attends the hospitals, or how few lectures, provided that he be capable of passing the required ordeal; and with this opinion we should perfectly accord, if the nature of the trial were always adapted to prove the merits of the candidate. But, unfortunately, the examinations are too superficial; and the candidate, aware of their nature, gives himself but little trouble in the preparation to meet them; well knowing, that by dint of memory, and the perusal of certain elementary books, written for the purpose, he is almost sure of answering the questions usually propounded.

Many youths, placed in populous towns, with honourable and intelligent masters, have duly appreciated those advantages, and have greatly improved themselves before going to complete their studies in London or in Edinburgh. It would be extremely unjust that these young men, whose industry, perhaps, has been laudably stimulated by the slender state of their pecuniary means, should be subjected to a year's attendance on a hospital, when half a year would suffice. On the contrary, will the idle or the stupid become efficient, even if the period of probation were doubled? It is the nature of the examination only, that can guard against either extreme, and secure to the public, scientific practitioners.

Without reference to the capability of the parties, we have ever been decidedly of opinion, that the present fee for a diploma, considering an examination as compulsory on all future surgeons, is too high; and may eventually be productive of an extravagant income to the College. It is true, by the present Bill, the poundage now exacted from those residing in London, and within seven miles thereof, will cease: but this has become a very precarious and comparatively trivial source of income to the College, and therefore is no great sacrifice. It is likewise to be observed, although it has been overlooked, that the College is positively restricted from augmenting, under any pretence, the amount of the admission fees. However, while we contend for moderation, it ought to be remembered, that an establishment like the College, reflecting, as it does, so much honour on the profession; and we will add, which has contribnted so much to improve surgical science, should be supported in a manner befitting its foundation and purpose. It is an ornament to the metropolis; while its Museum is an object of national pride. Institutions so splendid and distinguished, cannot be maintained, except at a large expense; and, to render the whole complete, the addition of a library is requisite. In short, we would have the income of the College liberal, and commensurate with its design; but we would not have it exorbitant: for inordinate wealth would be subversive of that science which it is the peculiar province of this noble institution to advance and uphold. Parliament should fix the maximum of the fee for a diploma, and all other fees should be abolished as derogatory from the character of a scientific institution; and if, in the revolution of years, it be found insufficient, the same power that grants can increase the amount.

But the adjusting the quantum of premium requires more deliberation than upon a casual view might be supposed; for, although the Bill pass, and it become imperative on all future surgeons to have a diploma, yet the number of candidates applying to the London College will be considerably curtailed; because those possessing a Scotch or Irish diploma, will hereafter have the same privileges an English one at present confers. In England, the ability of a surgeon, who is a member of the Royal College of Surgeons of Edinburgh or Dublin, is not equally estimated with that of a member of the London College. This, assuredly, is prejudice, and may be perfectly unfounded. We merely mention a fact, but do not pretend to assign a reason for it. By giving equal rights to all the Colleges, not only an honourable competition, favourable to science, will be excited, but all such illiberal distinctions, we hope, will thence subside.

The mind of our author, throughout the whole of his *Observations* is deeply impressed with the conviction, that the expense of medical education will deter parents from selecting the profession of medicine for their sons; and henceforth that there will be such a scarcity of practitioners, as to endanger the public health. We have said enough to evince, that we are not advocates for clogging medical education with great and superfluous changes; but we much doubt, even if the expenses were greater than they are, that the effect would be such as is apprehended. It is not to be expected, that we are always to be prepared with supernumerary surgeons for a Helder or a Walcheren expedition; neither are we to look often for a war so destructive and extended as the one just happily terminated, to keep them in constant employment. But we think it will be universally acknowledged, that, for many years past, every rank in the medical profession has been vastly overstocked; and that there is little occasion for boasting of the superior qualifications of the majority. Indeed, of the multitude we may truly say, "many are called, but few are chosen."

That there has been an excess of practitioners, has been so notorious, that the parents of well-educated youths have for many years past preferred placing their sons in merchants' and bankers' counting-houses, rather than devote them to a profession, wherein success, owing to the number of competitors, is so precarious. Hence young men, neither so respectable by connections, education, or property, as they ought to be, have found too ready an access into the profession; and hence the inundation of those uninformed and superficial practitioners, of whom there has been, both in the public and private service, so much reason to complain. But a certain expense must ever attend instruction, or where should we find competent teachers? And as to the paucity of practitioners; whenever it is felt that medical men are generally deserving of confidence, they will be proportionably encouraged accordingly; nor will the public ever have reason to lament the want of them.

We fear the writer too truly developes the causes which move the Dublin College of Surgeons to disapprove of this Bill. All corporations were originally chartered for public benefit; but we too generally find, that the individuals of whom they are composed, carry with them those little and self-interested views common to human nature; and, growing confident by association, the public weal soon becomes a subordinate consideration.

There are, among many other very just reflections in this short and spirited pamphlet, some upon the subject of midwifery, upon which we shall presently descant.

When a physician of such talents, and eminent professional rank, as Dr. James Hamilton, enters the lists, the object, be it what it may, is invested with a degree of importance that demands the utmost attention: and as his remarks, both as to time and point, are so much *ad rem*, we cannot delay noticing them, and offering our own opinions, to the medical public.

As might be naturally expected, the learned Professor of Midwifery deeply interests himself in the Bill as far as regards that art which it is his peculiar office to improve and protect. But ere we attempt to follow him in this part of the discussion, we will first endeavour to clear away some impediments to the comprehending of the real reasons why midwifery was at all introduced into this Bill; or, being introduced, that the provisions relative to it are so inefficient, and appear so much at variance with common sense. The original Bill took no notice whatever of Midwifery: the history of its introduction will be seen by a reference to the Seventh Report of the Committee of Associated Surgeons and Apothecaries of England and Wales*.

Dr. Hamilton very justly objects, that the present Bill restricts the practice of midwifery to surgeons only. This was certainly never contemplated by those who proposed that Midwifery should constitute a part of the intended legislative regulations; nor do we believe that the College, when the Bill was framed, was aware of its exclusive operation. The objection is easily obviated by restoring the clauses in the original Bill†, saving the privileges of the Universities and all Medical Corporations, with the addition of those of Scotland and Ireland; and this would leave physicians precisely the same right they now possess, freely to practise the obstetric branch of surgery. We are happy to have it in our power to assure Dr. Hamilton, and those whom it may concern, that we know the Bill has in this particular been amended, and fully recognizes the rights of Physicians, and of regular Apothecaries, as well as Surgeons, to practise Midwifery.

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* "Early in June, this Committee received a copy of a Bill "*For Enlarging the Charter of the Royal College of Surgeons, &c.*"

"The Committee approved of the principle of this Bill, generally; but objected to it: 1. That it empowered the College to demand whatever sum it pleased for a diploma: 2. That it continued the annual contribution levied on Members of the College residing within seven miles of London: and, 3. That it contained no provisions for the regulation of the Practice of Midwifery.

"The Committee therefore petitioned against the Bill; the effect of which was, that the College was not to exact any larger sum of name than paid at present for diplomas, or as contributions; and that some provisions concerning Midwifery were introduced. It was the wish of the Committee, that a Board of Examiners in Midwifery should be appointed by the College. But this was positively and successfully resisted. Finally, a provision was inserted, that no male person should, *in future*, be allowed to commence practising Midwifery, for lucre or gain, except Members of the College of Surgeons, (saving the rights of the College of Physicians). To this, as a compromise, the Committee yielded; upon the conviction, that if none hereafter were suffered to enter into this practice but those who had received a medical education, and had been examined touching their knowledge in Anatomy and Surgery, there could remain no doubt that the public would be effectually guarded against the intrusion of ignorant pretenders; nor was it likely that any Member of the College would exercise the Art of Midwifery without previous instruction. The Committee of the House of Commons would not allow any mention of female midwives. This Bill meeting some obstruction in the House of Peers, and the lateness of the session, preventing its being obviated, it was withdrawn."—*Repository*, vol. v. p. 441.

† Vide The Abstract, *Repository*, ibid. p. 261.

The interference of surgeons with medical practice, seems as tender a point with the physicians of Edinburgh as with those of London; and it requires not the gift of second-sight to foretell, that, when a distinct line of practice is attempted to be marked for the physician and the surgeon by such an absurd distinction as that of *external* and *internal* diseases, nothing but confusion among practitioners can ensue. We think Dr. Hamilton is guilty of a mistake, when he states that the charters of the Colleges of Physicians and Surgeons of Edinburgh are expressed in "explicit terms," when he informs us they contain terms so loose and indefinite.

Our author takes a rapid sketch of the rise of the custom of employing men in the practice of midwifery in Paris and in London; and clearly demonstrates to what great perfection the art has attained owing to the talents of the many eminent physicians who have written upon and taught its principles, in England, Scotland, and Ireland; and he very satisfactorily proves, that within the last forty years, the medical treatment of the diseases of women and children has, from their labours, been infinitely more improved than the treatment of any other set of disorders. Hence he infers, that the claims of physicians as practitioners in midwifery are peculiarly entitled to public confidence and legislative protection; truths, which we conceive none will be so hardy as to attempt denying.

"It is a curious and instructive fact," says Dr. Hamilton, "that in proportion as Physicians practising Midwifery in London have acquired the confidence of the public, they seem to have become the objects of distrust to the Fellows of the Royal College of that Metropolis; so that, as their public usefulness has increased, their exertions have been fettered by the Royal College, till at last an attempt is made to stop them altogether. At first the Licentiates of the College were allowed to practise Midwifery. Afterwards, in the year 1783, a particular rank was assigned to such Physicians, under the title of Licentiates in Midwifery. Within these few years, this rank has been abolished; and by their acquiescence in the Bill now under consideration, the College have finally consented to transfer the Practice of Midwifery to Surgeons.

"Placed as I am, at a distance from the Metropolis, and unacquainted with the characters of those leading Fellows of the Royal

College of Physicians who regulate the public acts of that Learned Body, it might not be proper for me to hazard any conjecture on the reasons for this conduct; but it may be very truly said, that they cannot proceed from an anxious desire to fulfil the condition on which their charter was granted, viz. to improve the Science of Medicine."

We do not quote this passage for the purpose either of acquiescing in or repelling, the attack on the London College of Physicians; but to correct a mistake into which the writer has fallen: for the Licentiates of that College have never been restricted from teaching or practising Midwifery. Those who in 1783, or since, were licensed to practise Midwifery, had never, we believe, graduated at all; and therefore were restricted to the exercise of that art, and the prescribing for diseases peculiar to females and infants. The Fellows only are prohibited from practising Midwifery.

Entirely agreeing with the learned Professor, that,

> "If the respectability of a Profession be at all estimated by the acquirements necessary for exercising it, the trust reposed in those who profess it, and the value of its object to Society at large, there is no department of the Healing Art which can be regarded as superior to Midwifery,"

we cannot withhold, however, the expression of our surprise, that the Colleges of Physicians and Surgeons should be so regardless of the specific condition of their charters, viz. to improve the sciences of Medicine and Surgery, as to entirely discard all cognizance of Midwifery.

We profess we are not sufficiently refined to be able to comprehend the subtilties and nice distinctions that the Royal Colleges would fain introduce. Midwifery indisputably belongs to the one or the other branch of Medicinal art. Neither of these learned and scientific bodies will venture to deny the great utility of the obstetric art; nor, perhaps, that its improvement will as much tend to lessen the burthen of human ills, as will the advancement of those departments of Medicine, over which they avowedly preside. Is the community, then, to suffer on account of a mere punctilio? This is a question which some enlightened legislator may investigate, and act upon.

It certainly is also most unaccountable that in the Metropolis of the British Empire alone, of all the cities of the civilized world, the Practice of Midwifery should be thought derogatory, and unworthy of notice by the legislature, the government, or the presiding medical authorities.

As no Member of the Court of Examiners of the College of Surgeons can practise Midwifery, of course it is not to be expected that that Court would commit its character by undertaking the examining of those who intend so to do. But why should not a clause be introduced, empowering the College to nominate certain of its own members for this particular office? Does it not rank among its members some of the most eminent accoucheurs of this great Metropolis? By adopting this expedient, the interests of humanity and of science would be duly regarded, and yet *Surgery* be maintained in all its wonted dignity and *purity*.

Dr. Hamilton proposes, instead of the fifth clause, that the following should be substituted:

> " Whereas in many parts of the kingdom Surgeons practise Midwifery, it is expedient that such Surgeons be duly qualified to exercise that Profession; and therefore that in future every Surgeon practising Midwifery, shall be obliged to produce before the *competent* Authorities of the County or City where he resides, a Testimonial from *some reputable and established teacher,* that he has attended regularly at least one complete Course of Lectures on the Principles and Practice of Midwifery, and also for a certain time some Public Lying-in Hospital."

But we would ask the learned Doctor where the surgeon is to find " the competent authorities of the county or city where he resides," before whom to produce " a testimonial from some reputable and established teacher?" In England, for instance, are the justices in quarter-sessions assembled, or is a mayor of a city, or the head-borough of a town, the *competent authorities* to judge of these affairs? The suggestion is impracticable in England and Ireland, and we should presume equally so in Scotland.

Our author makes some very judicious remarks relative to the employment of women in midwifery, with which we entirely coincide: and we fervently hope that they may have their due weight with those legislators, whom, we regret to say, we have heard treat this subject with great levity; and whom we could only excuse on account of their want of information upon a matter so wholly out of the sphere of unprofessional observers. He adds, that,

> " It is, however, quite obvious, that no woman can practise Midwifery with safety to her patients, unless she understands the precise nature of the requisite professional assistance.
>
> " All this is so incontrovertible, that in no other part of Europe except Great Britain, are Midwives allowed to practsie without being duly instructed. In Scotland, public opinion has long ago had the effect of law in this respect; and there are very few country parishes in which a regularly educated Midwife is not established. Since the year 1780, above a thousand such women have been taught by the Professor of Midwifery in Edinburgh, and a great many have also been instructed at Glasgow and at Aberdeen."

Why may not the same wise and humane regulation be made equally applicable to other parts of the empire, as to Scotland?

The Professor next proceeds to object to the bill, as granting "a *Monopoly* of the practice of Surgery throughout the United Kingdom, to certain privileged individuals," and conceives that any farther immunities to the respective Colleges of London, Edinburgh, and Dublin, than their charters already bestow, would be injurious; and that unfettered competition is more useful to the community in a profession that has for its object the alleviation of disease, than in any other. Yet a little farther on he admits, that, as their charters stand at present, they do not check competition; but on the contrary, "as constituting societies of intelligent and respectable men, they favour emulation, and, in that way, tend to the improvement of the art." "But," he adds, "it may be very much doubted, if the public utility of those Colleges would long continue, after being honoured with the monopoly proposed by the Bill." There is surely here some contradiction. Although we have as litle reason as any to be impressed with very great confidence in corporate bodies, yet if it be admitted that the Royal Colleges of Surgeons are useful with their present privileges and powers, we cannot conceive how the enacting, that none shall practice surgery without examination, and the diploma of one of these bodies, is to fetter competition, or to stifle emulation. There appears to us no other change contemplated in the constitution of the London College, than the possessing the sanction of the legislature, and the making of the diploma, which is now optional, compulsory. The entrusting of certain privileges with individuals, and the erecting them into a body-corporate, is not the less wise because the corporation so honoured has abused the trust. It may be, and no doubt is, a very cogent reason to distrust their discretion, and for imposing a more vigilant and effectual supervision of their actions.

We are persuaded that neither science nor the arts would have attained their acknowledged pre-eminence in this country, had it not been for the institution of similar establishments; which have often, by encouraging emulation, happily elicited genius. To what does the Medical School of Edinburgh itself owe its rise and great celebrity, but to the foundation of chartered societies, enjoying peculiar immunities? And although even in that celebrated school, we fear abuses exist, and lamentable deviations both from the letter and the spirit of its institution prevail, yet Philosophy is nurtured, and every department of Medical Science is nevertheless ardently cultivated, and successfully taught.

It is with great surprise, therefore, that we have seen a contemporary Northern Journal, distinguished for its intelligence and discrimination, resting arguments against this Bill upon a violation of the "*natural and indefeasible rights of man!*" And the writer conceives that "to prevent, by law, a person requiring surgical assistance, from obtaining it wherever he can," is an absolute encroachment upon these rights. Yet he does not deny that the public in general, and the lower classes in particular, are very incompetent judges of professional attainments! This doctrine might do very well for the writer of the *Age of Reason*; but it surely comes with an indifferent grace from learned teachers of a great university.

We, too, believe that the public is not, nor ever can be, the judge of the skill and abilities of a practitioner in so abstract a science as Medicine, and we do not confine ourselves to any particular branch of it: but we cannot therefore coincide with the Reviewer, that it is an encroachment on the natural and indefeasible rights of man, if the legislature provides for him in sickness and in sorrow, well educated and able medical attendants: on the contrary, we think, by so doing, if his Majesty's liege subjects are prevented from becoming the dupes of ignorant and designing impostors, a most humane and meritorious service is rendered to society. Of course, upon the same principle, we cannot agree with Dr. Hamilton that "it certainly is not consistent with humanity, to preclude persons suffering under disease from requesting the aid of any surgical practitioner whom they may choose to employ."

Can the learned author be aware of the inferences to be deduced from such opinions as the following?

> "What would be said of any legislative measure which should prohibit a person with a dislocated limb, which the regular members of the Royal Colleges of Surgeons of London, Edinburgh, and Dublin, had failed to replace, from having recourse to a Bone-setter? It cannot be denied, that Empirics of that description have occasionally succeeded in restoring the use of a limb which had been considered beyond the reach of art by regular Surgeons; and although this has been in most instances the effect partly of the patients submitting to a degree of violence from such Empirics which they would not allow regular Surgeons to exert, and partly of the boldness with which, from ignorance or self-confidence, such operators proceed, the result is of essential importance to the lame individual."

Does he wish, then, to leave Empiricism uncontrouled? Or, will he overlook the numerous and deplorable evils perpetuated on his fellow-creatures, or deem them compensated by an occasional instance of successful empirical rashness? Would he justify a farrier's performing the Cæsarean operation, because it has succeeded in such hands?

We should greatly lament that any Corporation should have immunities granted exceeding the precise object for which it was founded; for excess is the germ of future destruction in physics as in politics:

> *Quicquid excessit modum*
> *Pendet instabili loco.*

The objection to the bill, that it contains, no definition of the word *Surgery*, is a valid one; and we fear is insuperable. It would certainly be a public injury to preclude cuppers, corn-cutters, tooth-drawers, &c. from exercising their avocations, because they were not members of the College of Surgeons; nor is it necessary that they should be. Although there are many objections to so much minuteness in Acts of Parliament, yet we see no way of avoiding this evil but by special exceptions.

As to the omission of pains and penalties which is oppugned, this is, we believe, intentional, and for very good and substantial reasons. When the first Bill was in the Committee of the House of Peers, we ourselves heard the first Law authority in the kingdom lament, that definite punishments should be attempted to be fixed for offences widely differing in their nature and consequences. And we think it a recommendation of this Bill, that it leaves every one who is aggrieved at liberty to prosecute those practising without legal authority, and that the quantum of damages, if any, may be assessed by a jury; while the mere act of practising without a diploma, being an absolute infraction of a statute of the realm, will, upon conviction, meet with that specific punishment incident to the commission of such an offence. One of the strongest arguments which the sticklers for the freedom of action, "*and the natural and indefeasible rights of man*," have adduced against most of the late remedial statutes is the multiplication of penal enactments; and from these this Bill is studiously exempted.

The hint of the author, that there are no provisions for preventing the Colleges from abusing the privileges to be conferred by the Bill, deserves the most serious consideration. Even were not, as is alleged, "The tendency of all Corporations, however respectable the individual members may be, to enter into combinations for selfish purposes, indisputable," yet our own experience would teach us, how necessary it is that the Legislature should bind more firmly those to whom they delegate extensive powers to the due performance of those duties which have been bestowed for the good of the community, and not of individuals.

Although we cannot coincide with the learned writer of this letter, in all his sentiments, yet we consider the Public and the Profession infinitely indebted to him for the open and manly manner in which he has communicated his remarks; and we are clear that if many of his suggestions were properly regarded, the Bill would be greatly improved, and be more generally satisfactory. As it is not, at the time of writing this article, introduced into Parliament, we entertain a confident hope that the College will attentively weigh the various and forcible comments to which the discussion of the measure has given birth.

We avow ourselves friendly to the Bill in principle; but we think it defective, inasmuch as it regards Midwifery rather as an incumbrance than as an object of primary importance; and because through an affectation of brevity, it really discards all those protecting provisions on the part of the public which every act of parliament ought to contain. Speaking, however, dispassionately, we cannot conceal our conviction that the opposition to it does not altogether rest upon true and pure principles; but that the *pro bono publico* is made, as is too often the case, the cloak to conceal local and individual considerations. Let the opponents of the Bill meet it fairly and openly, like Dr. Hamilton, and as all public questions ought to be met; and if their reasoning be just, let the Bill perish; but if the opposition be from such motives as we suspect, we confidently hope that their arguments will experience that contempt from the Legislature and the Profession, which sophistry, assuming the guise of truth, deserves.

PART III.

SELECTIONS.

(Postponed for want of Room.)

PART IV.

FOREIGN MEDICAL SCIENCE AND LITERATURE.

PHYSIOLOGY, PRACTICE OF MEDICINE, AND SURGERY.

I. *Memoir on Animal Heat*, by M. Le Gallois, Physician of the Bicetre (*continued* from p. 433).

" These new researches determined us to compare, in the same experiment, the degree of cooling with the absorption of oxygen, in order to see whether the degree of cooling was not in the inverse ratio of the absorption. It was requisite for this purpose to ascertain the temperature of the animals at the beginning and the conclusion of each experiment; but this could scarcely be accomplished in the common pneumatic apparatus, as it was necessary to introduce them under the inverted receiver and pass them through water; which, added to the cooling occasioned by the obstructed respiration, would prevent the temperature from being accurately determined. The necessity, therefore, for employing some other apparatus was indispensable; and none appeared so likely to answer our views as the manometer, such as it has been perfected by M. Berthollet, and described by him in the first volume of the *Memoires de la Société d'Arcueil.* Unfortunately this instrument was not in the cabinet of the Faculty of Medicine; but Baron Corvisart, being informed of our want of it, ordered one to be constructed at his own expence, and combined with it an eudiometer of Volta much more perfect than that which we possessed.

In this manometer we repeated the experiments we had made under the receiver of the pneumatic apparatus, placing each animal in it first in a state of freedom, and on the following day fixed down upon a board. At the instant of introducing it, we ascertained its temperature between the scapula and the chest by a small opening made in the skin near the sternum; at the same time marking the height of the barometer, and the degree of the thermometer, which was suspended in the balloon. At the conclusion of the experiment, which generally lasted three hours, we again noted the degree of the same thermometer, the height of the barometer, and that of a scale, which we had adapted to our apparatus, and withdrew some specimens of the air; immediately after which we ascertained the temperature of the animal. Nothing then remained to be done, but to analyse the specimens of the air. After having absorbed by lime-water the carbonic acid they contained, and determined the quantity, we ascertained the proportion of oxygen by detonation in the eudiometer of Volta, using for that purpose hydrogen gas prepared by zinc and muriatic acid. Two analyses were made for each experiment, one of which answered as a proof of the accuracy of the other. In the first we detonated a mixture of two measures of the air of the manometer, and one measure of hydrogen gas; and if the detonation did not take place, which happened, as was observed by M. M. Humbolt and Gay Lussac, when the oxygen did not make the 15th part of the mixture, we added a measure of the air of the manometer, or of atmospherical air. In the second analysis, we used one measure of the air of the manometer, one of atmospheric air, and one of hydrogen gas; and, in order to be certain of the purity of the last, we were always careful to employ it first in the analysis of atmospherical air.

" In following this method, we still found that frequently the rabbits consumed a little more oxygen, or at least as much when they were fixed down as when they were free; and that nevertheless their temperature fell about 2° 5′; whereas it rose half a degree or more when they were free.

"We made five similar experiments upon kittens. Twice we remarked that the animal, when fixed down, absorbed a little more oxygen than when in a state of freedom; the absorption was sensibly equal in the other three. In the five experiments the temperature of the free animal remained the same; or suffered a small increase; that of the animal fixed down fell 1½ to 2 degrees.

"These experiments upon cats particularly arrested our attention. We had found that these animals, when under the pneumatic apparatus, had invariably absorbed less oxygen when they were fixed down than when they were free; and we observed, that in the manometer they absorbed a little more, or at least as much: the only marked difference between the two orders of experiments depending on the quantity of air employed. I have already observed that the quantity under the pneumatic receiver was constantly 14890 cubic centimetres, when our manometer contained 41720. It was evident that animals of the same species, and strength, and who could consume in an *equal* time nearly *equal* quantities of oxygen, ought to reduce in a certain time, in an hour, for instance, the proportion of that gas in the pneumatic receiver, very much below what it would be in the manometer. Thus, in comparing the quantities of oxygen which remained in the receiver and in the manometer at the conclusion of the experiments made upon cats, I found that in the first, the proportion, in taking the mean, was about 0·10, whilst in the second it was about 0·17 upon the 0·21 which existed at the commencement of the experiment.

"In supposing, then, that the difficulty of breathing, occasioned by extending the animal upon its back, was the same under the receiver and under the manometer, that which proceeded from the diminution of the oxygen being greater in the first case, it was to be presumed that this was the cause of the less consumption of the oxygen by the cats when they were fixed down than when they were free; whence the conclusion may be drawn that, in order to prevent an animal from consuming as much oxygen as usual, respiration must not only be rendered difficult, but must be so in a great degree; and that when it is only moderately impeded, the respiratory movements are increased to a degree sufficient to take into the lungs as much or even a little more air than when it is free. We the more readily adopt this opinion from a similar one having been adopted by M. Nysten from some experiments made upon patients affected with dyspnœa from different causes.

"Three experiments which we made upon dogs afforded similar results. Two of these were made upon the same dog: in the first a little more oxygen was consumed when he was fixed down, than when he was free; but the dog was then only six days old, and weighed 61·5 grammes. At the end of the experiment 0·14 of oxygen remained in the manometer. The second experiment afforded a contrary result, less oxygen being consumed when the dog was fixed down than when he was free; but he then weighed 1070 grammes, and he reduced the proportion of oxygen in the manometer to 0·11. The third experiment, which was made upon a dog of nearly the same weight as that employed in the second, afforded a similar result.

"It appears then that the cause why the animal who is fixed down consumed so much less oxygen than the same animal in a state of freedom, and at other times as much or even a little more, was entirely the degree of the impediment produced to the respiration. When this was great, whether from the animal being strongly bound down, or from the proportion of the oxygen in the air which it respired being much diminished, or from the reunion of these causes, in different degrees of intensity, it consumed less; but if the binding was moderate, it then consumed as much or more, at least if no concomitant circumstance concurred to prevent it; and such was the case in the experiments made under the receiver inverted in the pneumatic trough at a low temperature. The rapid reduction of temperature, which the animals then experienced, rendered them incapable of overcoming the impediment to their respiration, by exerting all their strength, as could be readily seen by the languid state in which they were at the conclusion of the experiments.

"But it still remained difficult to explain how an animal, when bound down, became colder, even when it consumed more oxygen than when in a state of freedom. In considering attentively the case, it appeared that the efforts which the animal made to sustain its respiration were sufficient to occasion a greater loss of caloric than when it respired without restraint. It may, indeed, be easily conceived, that if two animals, equal in every respect, consume, in a given time, the same quantity of oxygen, the same quantity of caloric would be disengaged by both; but if one of them be much more exercised, and lose so much more caloric in the same time, its temperature would necessarily be inferior to that of the other; and the same thing would happen even if it should consume a little more oxygen, and form a little more caloric, provided the effort it made for that purpose were sufficient to make it lose more than it had formed. The explanation was very applicable to the results of all our experiments.

"For example, in those made upon rabbits, if one of these animals was placed at liberty in the manometer, and, on account of its age and its size, it did not reduce the oxygen below fourteen hundred parts, its temperature far from being lowered, was raised half or even a whole degree, because the air in the interior of the manometer is warmer than the external air; but if, in place of being at liberty, it was fixed, it would consume the same quantity of oxygen as in the first case, and become yet colder, owing to the continual efforts it is obliged to make, in order to respire. Two rabbits of the same litter as the preceding, being placed at liberty in the manometer, reduced about one half of the oxygen contained in it, and became cold, although each of them had consumed as much of that gas as the first had done. Finally, when instead of two, a larger rabbit was placed in the apparatus in a state of freedom, it consumed as much oxygen as the two had done, and cooled in a similar degree. The same results were obtained when other animals were introduced into the manometer; they preserved the same temperature, or even acquired one a little higher, although they produced a moderate reduction only of the oxygen, and they constantly became colder when a greater reduction of the gas was produced. In a word, in every instance when the respiration of an animal is impeded by one cause, or a concourse of causes, so that constant struggling for breath takes place, it becomes colder, whatever may be the quantity of oxygen it consumes.

"It is evident, from the preceding facts, that, in order to throw a new light upon the cause of refrigeration, and its relation with the absorption of oxygen, two circumstances must be attended to: firstly, the quantity of oxygen which the animal consumes, and the absolute quantity of caloric which it loses, must be measured and compared: secondly, its respiration must be so far impeded, that it cannot inspire, by any effort, the same quantity of air which it can take into the lungs in a natural state. This difficulty of respiration being susceptible of different degrees, from the instant the animals cease to be able to inspire as much as in the natural state, until the asphyxia is complete, it is necessary to ascertain whether, in these different states, they cool in a greater degree as they consume less oxygen. It appeared to us, that the easiest and most certain process for regulating at will the respiration, was to diminish, in known proportions, the quantity of oxygen contained in the air submitted to experiment; and to effect this we first proposed to rarify the air of the manometer. A vacuum was made in a large glass balloon by means of an air pump, and after having placed the animal in the manometer, a communication between it and the interior of the balloon was established by means of stopcocks. As the structure of the manometer enabled us to ascertain the degree of rarefaction of the air, if it was not sufficiently great, we repeated the operation by renewing the vacuum in the balloon, until that within the manometer was of the exact degree of rarity which we wished. We left the animal for three hours under experiment; and observed, at the commencement and the end of every experiment, all the necessary precautions, as far as regarded the thermometer and barometer, the extracting the specimens of the air, and in taking the temperature of the animals.

"It may be objected, that the lowering of the temperature of the animals might not perhaps depend so much upon the absorption of oxygen, as upon the rarefaction of the air itself, which would have the effect of facilitating and increasing both the cutaneous and pulmonary transpirations. With the view of clearing up this doubt, after having placed the animal in the manometer, and having rarefied the air, we introduced into it some azotic gas. This gas was prepared by the rapid combustion of phosphorus under a bell glass. The results were the same as in the rarefied air; and there was no alteration, when, in place of azotic gas, we used carbonic acid gas for filling the vacuum of the manometer; except that in the latter case, when the vacuum was the same as in the two preceding instances, the refrigeration was in general much greater, the absorption also was at the same time much smaller.

"We made these experiments upon four kinds of animals, dogs, cats, rabbits, and guinea-pigs. Each kind was submitted to four different comparative proofs, viz. 1. In atmospherical air at its natural pressure. 2. In atmospherical air simply rarified. 3. In a mixture of atmospherical air and azotic gas, at a pressure of seventy-six. 4. Finally, in a mixture of atmospherical air and carbonic acid gas, prepared under a pressure of seventy-six. And very frequently, in order to compare the results, the four proofs were made successively; and after an interval of some days upon the same animal*.

"An English author appears to think, that the production of animal heat depends on the nervous energy, particularly that of the brain. Undoubtedly, much depends on nervous energy, as does every thing connected with life; for there is not one part or one function that is not more or less influenced by that power. But this does not prevent the necessity of other physical or chemical conditions being required for the production of the phenomenon under consideration. In answering the question, what are the causes of animal heat? three things must be considered; viz. the source or the matter which furnishes the heat; the place or focus in which it is deposited; and finally, the mechanism or power by which it is disengaged and spread over the body. It is undoubted, that the nervous energy intervenes for the last effect; but how or under what circumstances does it intervene? I have shewn in my Memoir, on the section of the eighth pair of nerves, that the combination of atmospheric oxygen with the carbon of the blood, does not depend on that pair of nerves; although the respiratory movements necessary for bringing the air into contact with the blood are dependant on it.

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* We have here omitted a portion of M. Gallois' Essay, as it merely refers to the construction of his tables, which we have not literally copied.

" Venous blood, in acquiring the character of arterial in the lungs by the action of oxygen, acquires so much greater a capacity for caloric, that it combines with all that the oxygen yields up, without increasing its temperature. This blood, returned to the heart, and propelled through every part of the body, loses, as it arrives at the extreme arteries and the capillary system, its arterial properties, and is again brought back to the state of venous blood; it consequently changes its capacity for caloric, and regains that which it had before traversing the lungs, by disengaging all the caloric which it acquired in these organs. It is upon this conversion of arterial into venous blood, and the accompanying change of capacity, that the nervous energy has an immediate influence. The developement of the heat also, whether in the whole body, or in a determinate part only, is effected by this power. Hence we can readily conceive, that whatever weakens the nervous energy must tend to lower the temperature of the animal, and this effect may be observed in many diseases. When animals are decapitated, the nervous energy must be necessarily injured and weakened, and consequently this state has a very marked influence on the developement of the caloric in their capillary system. We have direct proof also, that the conversion of venous into arterial blood scarcely takes place in weakened animals; and that the blood, in passing into the veins, preserves nearly the colour which it had in the arteries, and is almost as bright in the vena cava as in the aorta.

" The experiments detailed in this memoir lead to the conclusion, that, when an animal is fixed down upon its back, it constantly becomes colder; but in different degrees, according to the temperature of the atmosphere, and the force with which it is extended.

" If an animal thus extended is placed in a close vessel, it becomes equally cold there, although, during the course of the experiment, the temperature of the air within the vessel be elevated above that of the atmosphere.

" If the quantity of oxygen it consumes in this state be compared with what it would consume in a state of liberty, it will be found to be a little less in certain cases, and in others a little more: the difference depending on the temperature of the atmosphere, the force with which the animal is fixed down, and the reduction which it effects in the proportion of oxygen contained in the vessel.

"The three following causes, together or separately, render the absorption of the oxygen less when the animal is fixed down than when it is loose, viz. 1. a temperature under 10°. (centig.), because, in accelerating and augmenting the cooling of the animal, it weakens its inspiratory movements; 2° fixing down the animal strongly upon the back, because this greatly limits the amplitude of these movements; 3° the reduction in the proportion of the oxygen, because it cannot inspire beyond a certain quantity of that gas in a given time, however much it exerts its respiratory faculty: but if the temperature of the atmosphere be a little raised; if, at the same time, respiration is not much impeded by the tying, and the proportion of oxygen in the vessels is sufficient for the wants of the animal, it often happens that it consumes as much or even a little more oxygen, although it becomes colder than when it is loose and preserves its temperature. This effect appears to be owing to the difficulty of respiration urging the animal to increase its inspirations beyond their natural extent; and the efforts it makes to accomplish this, occasions it to lose more caloric than it developes in consuming the same quantity by an uninterrupted respiration.

"But an animal becomes colder, not only when it is fixed down, but also when its respiration is impeded by any other cause. One of the easiest methods of regulating this at pleasure, is to diminish the quantity of oxygen in the air which it breathes, either simply, by rarifying the air, or augmenting its proportion of azote, or adding to it a certain quantity of carbonic acid.

"The difficulty of respiring which occurs in all these cases may be ascertained by measuring the proportion of oxygen which the vessels contain at the commencement and the end of the experiments; and it will be found that the cooling is in the direct ratio of this difficulty and the inverse of the consumption of the oxygen; so that when the difficulty is equal in two distinct experiments on the same animal, the greater the coldness produced, the smaller will be found to have been the consumption of oxygen, and vice versa.

"As the simple rarefaction of the air requisite for lowering the barometer only 30 centimetres, suffices for cooling the animal who breathes it, it follows that the cold experienced on the summits of mountains does not depend on that of the atmosphere only, but more on the effect produced on the respiration. Asphyxia always lowers the animal temperature, and it may be brought very low in suspended animation. I shall demonstrate, on another occasion, that in this last instance every method would be unsuccessful for restoring the life of the animal without artificial heat, and that more frequently this heat is the most important remedy.

"The volume of carbonic acid gas found in the air which has been respired during the whole course of an experiment, does not always accord with the oxygen which has disappeared, nor with the cooling of the animal. This is apparently owing to a part of the gas which is formed being reabsorbed by the animal itself, and this absorption varies even in very similar circumstances. It is very likely that the great anxiety which carbonic acid gas occasions to an animal who respires it when it is mixed, even in moderate proportion, with the atmospherical air, depends chiefly on the deleterious properties communicated by this absorbed gas to the arterial blood.

"Much yet remains to be done to settle this curious and important question relative to animal heat. The following circumstances, in particular, require to be explained. Animals of nearly the same weight, but of different kinds, consume, in the same time, very different quantities of oxygen. For example, a rabbit weighing 947 grammes has consumed in three hours only 2724 cubic centimetres; whilst a dog, weighing 917 grammes, has consumed in the same time 5503 cubic centimetres, a little more than double; and a cat, weighing 631 grammes only, has consumed 3963 cubic centimetres. Yet all these animals preserve nearly the same temperature, which would not occur, if respiration were the source of animal heat, seeing that those who consume the most oxygen suffer in the same time a greater loss of caloric. The relation between the acquisition and the loss of caloric in different kinds of animals, requires yet to be settled by experiments. I propose occupying myself on this subject.

"Now that many methods are known for lowering the temperature of animals, it would be important, on account of the application which might be made of it in medicine, to ascertain by experiments on various species of warm-blooded animals—1. What degree of cooling produces positive death: 2. What degree produces that state of suspended animation from which the animal can be recovered, and what are the means of recovery: 3. What degree produces that state which is followed by spontaneous recovery: 4. What is the state of the functions at these different degrees of lowered temperature.—I have ascertained the fact, that rabbits about six weeks or two months old, having lost 8° of temperature, that of the atmosphere being about 16°, do not spontaneously recover themselves; but that at many degrees lower, they may be restored by warming them.

and Nature of the Air.	Age Ani	Durat the	Oxygen.			Carbonic Acid.	At beginning.	At end.	Dif-ference.
			Employed	Left.	Consumed				
1°. A rabbit weighing 997 gram. air common atmos.	3 mon.	3 hours	20·88	13·38	7·50	7·03	39°	39·5	+ 0·5·
2°. Ibid. 14·840 gram. mixture of carbonic acid and atmospherical air..................................	118 days.	3 hours	16·40	9·96	6·44	introd. 21·90 end 27·76	40·	35·5	+ 4·5.
3°. Ibid. a mixture of atmospherical air, and carbonic acid gas..	94 days	3 hours	15·18	12·05	8·13	introd. 27·73 end 26 91	40·2	27·5	—12·7·
4°. Ibid. weighing 947 grammes: air common atmos.	70 days	3 hours	20·60	14·07	6·53	6·56	39·7	40·	— 0·3.
5°. A cat, weighing 634 grammes, ibid..................	74 days	3 hours	20·76	11·26	9·50	7·40	39·5	39·	— 0·5·
6°. Ibid. weighing 737 grammes, ibid..................	3 m.	3 hours	21·25	12·73	8·52	6·20	38·7	38·4	— 0·3·
7°. A dog, weighing 2·713 kil. rarefied atmos. air......	26 days	2h 12m	16·63	4·55	12·08	9·45	38·6	35·2	— 3·4·
8°. Ibid. a mixture of air and carbonic acid............	28 days	2h 15m	16·74	6·13	10·61	introd. 20·29 end 25·79	38·4	34·6	— 3·8·
9°. Ibid. atmospherical air and azotic gas......	39 days	2h 5m	16·13	4·53	11·60	9·30	38·9	34·9	— 4·
10°. Ibid. weighing 917 grammes: atmospherical air...	1 m.	3 hours	21·20	8·01	13·19	7·65	38·	34·	— 4.
11°. Two guinea-pigs, one weighing 474 grammes, the other 332: atmospherical air..................	adults.	3h 2 m	21·02	12·53	8·49	6·27	one...39·5 other 39 4	38·9 38·7	—0·16· — 0·7·
12°. Ibid. two days afterwards: atmospherical air and carbonic acid gas.........	idem.	2h 15m	11·27	9·61	1·66	introd. 46·32 end 42·64	one...39·5 other 39·	31·5 30·2	— 8· — 8·8·

The above Table is merely an abstract of M. Gallois' four Tables, which we do not consider it requisite to insert at full length.

PART V.

MEDICAL AND PHYSICAL INTELLIGENCE.

ROYAL SOCIETY.

On Thursday, March 27, Mr. Marshall's Paper on the Laurus Cinnamomum was continued. He described the way in which the cinnamon was collected, and the frauds practised by those employed in gathering it. It is usually stowed along with black pepper, in order to save room; or if pepper be wanting, coffee is substituted in its place. The Dutch sometimes ordered an oil to be extracted from the coarser kinds of cinnamon, which were not considered as fit for the home market. The method is simple The bark is reduced to a coarse powder, macerated for some days in sea water, and then put along with water into a still. There comes over with the water a light oil which swims on the surface of the water, and a heavy oil which sinks to the bottom. The whole of the light oil separates in twenty-four hours; but the heavy oil continues to subside for ten or twelve days. 80lb. of fresh bark yield 2½ oz. of the light oil, and 5½ of the heavy. The product is a little diminished when the bark has been kept for some years before it is distilled.—Cinnamon when first separated from the branch has an orange colour, and a very agreeable fragrant odour. The colour diminishes and the smell nearly disappears by keeping.—Cinnamon is confined to the torrid zone. Besides Ceylon, it grows on the Malabar coast, in Cochin China, in Sumatra, Borneo, Celebes, the isle of France, Guiana, Jamaica, and other West India islands.—On Thursday, April 17, the remainder of Mr. Marshall's paper was read. It was taken up with endeavouring to trace the origin of cinnamon and cassia. Herodotus informs us that the Greeks adopted their term cinnamon from the Phenicians. The Phenicians probably would adopt the word used in India. The Malays express cinnamon by the phrase *kaku menes*, sweet wood; and Mr. Marshall is of opinion that this is the origin both of the words cinnamon and cassia.

LINNÆAN SOCIETY.

On Tuesday, April 1, part of a paper by M. de Brisson was read, giving an account of hymenopterous and dyterous insects not yet described by systematic writers.—On Tuesday, April 15, a short account of the uncommon species of serpent found in Dorsetshire, and long ago described by Linnæus, was given by Mr. Rackett. It is more poisonous than the common viper.—At the same meeting a paper by Mr. Colebrook was read, describing some little known Indian plants.

MEDICAL BENEVOLENT SOCIETY.—At the first Annual General Court the following gentlemen, Dr. Luke, Dr. Drever, Joseph Hayes, Esq. A. T. Thomson, Esq. R. S. Wells, Esq. and Reginald Williams, Esq.; went out of the Direction, by rotation; and Dr. G. G. Currey, Dr. Outram, H. L. Thomas, Esq. R. R. Pennington, Esq. Neville Wells, Esq. and Edward Browne, Esq. were elected.

The number and names of Members, and the Accounts of the Society were reported; and the 10th of May appointed for the Anniversary Festival.

The FIRST ANNIVERSARY of this admirable INSTITUTION was accordingly commemorated at the *Freemason's Tavern*, on Saturday May the 10th, when, between forty and fifty Gentlemen, among whom were some of the most distinguished Members of the Profession, assembled: The President of the Royal College of Physicians, Dr. LATHAM, to whose philanthrophy the Society owes its foundation, in the CHAIR.

After the cloth was drawn, the worthy Chairman took occasion to express the peculiar gratification he derived from the attendance of so large a portion of the Members of this infant Society; which he interpreted as a proof of their zeal in promoting its welfare, and as an auspicious omen of its future prosperity.

Although the present number of its Members bore a very small proportion to that of the Profession, yet when he remembered the degree of support which similiar Societies had met with when first instituted, and when he saw the amount of the contributions already bestowed, the MEDICAL BENOVELENT SOCIETY might be considered in a prosperous condition. The state of the funds indeed was highly satisfactory. The expenditure would of course appear large, but it would be recollected that this was the first year of the Society's being established, and the expences were necessarily greater than any future year would require.

Every one would acknowledge that the Medical Profession was as useful as it was honourable; but unfortunately it was a Profession, which, although attended with greater responsibility, anxiety, and personal sacrifices than any other; yet, excepting to a few in the higher rank, it rarely afforded the means of acquiring more than a decent competency. Almost every other profession or occupation presented to the assiduous, the certainty of a provision against the infirmities and incapacity of age; but Medical Practitioners, after a well-spent and most laborious life, too often found themselves under the necessity for continued exertions when they ought to be expecting repose. To provide in some degree against such distressing contingencies, this Society was established.

It would be seen by reference to the Plan of the Society that there were two modes, by which a comfortable provision might be secured in case of any of those vicissitudes in life to which Medical Men were peculiarly exposed, or when age and infirmity rendered a Member unequal to further labour:—the one was, by paying annually one guinea or more, till he have paid the sum of thirty guineas, which would entitle him to such relief as, upon application, the funds would afford; the other was by paying at one time a sum of money, which at twenty-five years of age was £49 only, or annually a small premium, which would at the age of sixty secure the absolute property of an annuity of at least £50 for the remainder of life.

When the existence and views of this Society were more generally circulated, he was confident that it would have the approbation and support of the more affluent Members of the Profession; who must frequently meet with individuals in indigent circumstances, by whom pecuniary assistance was greatly needed; while those less successful, by contributing a small annual subscription, so small indeed as scarcely to be felt, would, if it became general soon raise a fund adequate to the relief of those of their brethren whom age, disease, or misfortune, had reduced from a rank so respectable, and who are therefore true objects of benevolence.

The Chairman added other observations well calculated to stimulate the Members present to induce their private as well as medical friends, to aid so excellent a charity.

Several liberal donations, both from professional and unprofessional friends to the Institution, were received, and many new Members were proposed. The impressions ever resulting from the consciousness of good actions, together with the liberal and unremitting attentions of the Stewards, were so gratifying, that the day concluded with general satisfaction.

We cannot refrain from adding our sincere congratulations upon the permanency, which is now placed beyond all doubt, of this truly Professional Charity. But respectable as it is, both in numbers and property, our surprise and regret is not the less that, considering the advantages it presents to Practitioners throughout England and Wales, it is not more generally supported. This we can alone impute to its principles being misinterpreted, or not being yet sufficiently known. They who are desirous of further information respecting this Society we refer to the Secretary, Mr. Best, No. 15, Tavistock Street, Covent Garden; or to the *Repository*, vol. v. p. 82, 173, 259, 532.—Editors.

London Medical Institution.—The first Annual Oration of this Institution was delivered on the 12th of April, by the Secretary, Mr. James U. Smith. We have been favoured with a printed copy of it; and cannot avoid congratulating this New Society on a performance, the eloquence of which confers equal honour on its Members and the Orator.

NOTICES OF LECTURES.

Dr. Clutterbuck will begin his Summer Course of Lectures on the Theory and Practice of Physic, Materia Medica, and Chemistry, on Monday the 2d of June, at Ten o'clock in the Morning.

Mr. Carpue will commence his Lectures on Anatomy and Surgery on Monday the 2nd of June. Particulars at Mr. Carpue, 50, Dean Street, Soho.

A METEOROLOGICAL TABLE,

From the 21st of April to the 20th of May 1817,

KEPT AT RICHMOND, YORKSHIRE.

230 Miles NW from London.

D.	Barometer. Max.	Barometer. Min.	Therm. Max	Therm. Min.	Rain Gage.	Winds.	Weather.
21	30 07	30 05	62	32		NE.	1 Cloud.. 2 Sun.
22	30 05	29 99	61	32		NE.	1 Sun.... 2 Sun.. 4 M....
23	30 01	29 99	56	38		NE.	1 Sun...
24	30 05	29 99	55	35		N..	1 Sun..
25	29 95	29 85	45	35		NbW..	1 Cloud...
26	29 73	29 71	54	38		NW...	1 3 Cloud...2 Sun. 4 Mn..
27	29 87	29 82	51	34		N.	1 C.. 2 S. & Sh. 4 M...
28	29 76	29 58	57	40		WNW.	1 Sun.. 2 Cloud.. 4 M..
29	29 47	29 47	58	35	13	SW...NW...	1 Sun.. 4 Sh..
30	29 67	29 66	52	35	01	N.NW	1 Sh. & Sun. 4 Mn..
1	29 78	29 73	53	29		NbE...	1 S. & Sh. 2 S.. 4 Mn....
2	29 70	29 66	61	44		Vble.	1 Sun... 2 Sun. 4 Cloud..
3	29 43	29 38	63	41		SW..	1 Cloud.. 3 Sun..
4	29 64	29 61	58	38		WSW..	1 Sun..
5	29 69	29 60	60	35		SW...	1 2 4 Cloud.. 3 Sun..
6	29 97	29 95	59	31		WNW..	1 Sun...
7	29 79	29 66	62	36		SE..SW..	1 Sun....
8	29 73	29 63	57	37		NW..NE..	1 Sun... 2 Cloud...
9	29 48	29 20	64	38		NE..SE..	1 3 4 Cloud... 2 Sun..
10	29 13	29 06	61	35	09	SE..SW.	1 Cloud... 2 4 R. 3 Sun..
11	29 17	28 85	58	40	08	W..S.	1 Sun... 4 Rain.
12	29 13	29 02	58	38	05	WSW..	1 Cloud.. 2 Sun.. 4 R.
13	29 36	29 33	56	31		WSW..	1 Cloud..2Sun..4Star....
14	29 41	29 37	63	40	15	SW..SE..	1 Sun.. 2 Rain..
15	29 57	29 55	60	34		NE.NW..	1 Cloud.. 2 Sun.. & Sh.
16	29 57	29 46	59	38		SW..	1 Sun...
17	29 48	29 43	64	36		SW..	1 Sun...
18	29 38	29 24	68	34	34	SE.	1 Sun.. 2 Cloud... 3 R...
19	29 35	29 33	59	35		NW.NE..	1 Sun...
20	29 39	29 36	59	40		N..NE..	1 Sun.. 2 Cloud..

The quantity of rain during the month of April has been unusually small, being only 15-100ths of an inch.

* * *

Observations on Diseases at Richmond.

The diseases under treatment this period, were Asthma, Catarrhus, Colica, Convulsio, Diarrhœa, Dyspepsia, Febris Simplex, Gastrodynia, Obstipatio, Ophthalmia, Paralysis, Pneumonia, and Rheumatismus Acutus.

METEOROLOGICAL TABLE FOR LONDON,

From the 20th of APRIL to the 19th of MAY, 1817,

By Messrs. HARRIS & Co.

Mathematical Instrument Makers, 50, High Holborn.

M.	D.	Therm.			Barom.		Rain Guage	De Luc's Hygrom. Dry.		Damp.		Winds.		Atmo.-Variation.		
	20	48	54	42	30^5	30^5		1	0		0	Nva	Nva	Fine	—	Clo.
	21	46	52	39	30^5	30^4		0	1	0		NE	E	Fine	—	Clo.
	22	44	51	39	30^4	30^5		1	1			NE	ENE	Fine	—	—
○	23	41	50	34	30^5	30^5		1	0		0	NE	NE	Clo.	Rain	Fine
	24	39	51	39	30^5	30^4	.03	0	0	0	0	NE	NNE	Clo.	Fine	Rain
	25	43	49	39	30^3	30^2	.02			1	1	N va	N	Clo.	—	—
	26	44	56	39	30	29^9		0	0	0	0	N	NW	Clo.	—	Rain
	27	49	59	39	30	30^1	.05	1	1			N	SE	Fine	—	—
	28	41	54	47	30^1	30		1	1			SW	NW	Fine	—	—
	29	49	55	45	29^9	29^8		0		0	1	WSW	SW	Fog	Clo.	—
	30	47	54	41	29^7	29^8	.05			1	1	NNW	NW	Clo.	—	Fine
◐																
	1	45	50	45	29^9	30		0		0	1	N	NNE	Clo.	—	Fine
	2	47	53	42	30	29^9				1	1	N	NE	Clo.	Fine	—
	3	45	52	46	29^8	29^8				1	1	NW	W	Clo.	Fine	—
	4	49	57	46	29^9	30				1	1	W	NW	Clo.	Fine	—
	5	59	65	47	30	30		1	1			W	W	Fine	—	—
	6	56	58	47	30	30^2		1	1			SW	E	Fine	—	—
	7	49	57	48	30	29^8	-	0	0	0	0	NE	E	Clo.	Rain	Clo.
●	8	50	55	42	29^4	29^8	.12	1			1	E	NE	Clo.	—	Rain
	9	49	56	43	29^8	29^7	.07			1	1	NW	W	Clo.	—	Rain
	10	45	59	46	29^6	29^4	.09			1	1	S	SW	Clo.	Rain	Clo.
	11	47	57	47	29^2	29^2	.05			1	1	S	SW	Clo.	Fine	Clo.
	12	49	56	47	29	29		0	0	0	0	SSW	SW	Rain	Clo.	—
	13	53	57	50	29^2	29^4	.13	0	0	0	0	SSW	SW	Fine	—	Clo.
	14	57	58	50	29^5	29^5	.06			1	1	S	WSW	Clo.	—	—
	15	54	60	52	29^4	29^5		1	1			SW	W	Rain	Clo.	Rain
	16	56	66	53	29^7	29^9	.21	5	3			SSW	S	Fine	—	—
◑	17	49	66	50	29^6	29^5		1	1			SW	SW	Fine	—	—
	18	54	64	45	29^4	29^4	.16	0		0	1	W	WNW	Fine	Rain	Clo.
	19	49	59	40	29^6	29^6	.23			1	1	N	NE	Clo.	Rain	—

The quantity of Rain fallen in the month of April is only 24-100ths.

BILL OF MORTALITY *from April 22, to May 20, 1817.*

		April 29.	May 6.	May 13.	May 20.	
CHRISTENED.	Males	201	274	190	230	
	Females	178	240	181	234	
		379	514	371	464	Total, 1728.
BURIED	Males	181	204	160	180	
	Females	154	189	162	166	
		335	393	322	346	Total, 1396.
OF WHOM HAVE DIED	Under 2 Years	105	99	81	106	
	Betw. 2 and 5	28	26	37	34	
	5 and 10	25	18	15	13	
	10 and 20	10	15	9	10	
	20 and 30	25	35	18	21	
	30 and 40	22	37	29	36	
	40 and 50	36	37	31	37	
	50 and 60	26	35	35	28	
	60 and 70	33	28	28	15	
	70 and 80	15	26	19	17	
	80 and 90	9	18	11	14	
	90 and 100	1	13	6	5	
	100	0	3	0	0	
SMALL POX		19	12	26	20	Total 74.

A REGISTER OF DISEASES

Between *APRIL* *20th*, *and* *MAY* 19*th*, 1817.

DISEASES.	Total.	Fatal.	DISEASES.	Total.	Fatal.
Abortio	16		Epilepsia	8	1
Abscessio	22		Epistaxis	11	
Acne	4		Erysipelas	14	
Amenorrhœa	30		Erythema *læve*	3	
Anasarca	27	3	——— *papulatum*	2	
Angina Pectoris	1		——— *nodosum*	2	
Anorexia	5		Exostosis	1	
Aphtha *lactentium*	12		Febris *intermittent*	15	
——— *anginosa*	3		—— *caturrhalis*	35	
Apoplexia	8	6	—— *Synocha*	27	
Ascites	14		—— *Typhus mitior*	21	3
Asthenia	33	2	—— *Typhus gravior*	5	2
Asthma	52	6	—— *Synochus*	29	1
Atrophia	4	1	—— *Puerpera*	1	1
Bronchitis *acuta*	6	1	—— *remit. Infant*	14	
——— *chronica*	6		Fistula	4	
Bronchocele	1		Fungus	2	
Calculus	1		Furunculus	7	
Caligo	1		Gástritis	2	
Cancer	2		Gastrodynia	40	
Carbunculus	1		Gonorrhœa	22	
Cardialgia	16		Hæmatemesis	4	
Carditis	2	1	Hæmaturia	1	
Catarrhus	70		Hæmoptöe	16	1
Cephalalgia	32		Hæmorrhois	17	
Cephalæa	5		Hemiplegia	4	
Chlorosis	9		Hepatalgia	4	
Chorea	2		Hepatitis	25	
Cholera	5		Hernia	9	
Colica	20		Herpes *Zoster*	4	
—— *Pictonum*	5		——— *circinatus*	9	
Convulsio	22	3	——— *labialis*	2	
Cystitis	1		——— *præputialis*	1	
Cynanche *Tonsillaris*	28		Hydrarthyrus	2	
——— *maligna*	4	1	Hydrocele	1	
——— *Trachealis*	2		Hydrocephalus	6	5
——— *Parotidea*	10		Hydrothorax	8	2
——— *Pharyngea*	1		Hypochondriasis	11	
Diarrhœa	55		Hysteralgia	9	
Dysenteria	8	1	Hysteria	12	
Dyspepsia	68		Hysteritis	1	
Dyspnœa	25		Icterus	10	
Dysphagia	2		Ileus	1	
Dystocia	3		Impetigo *figurata*	5	
Dysuria	7	1	——— *erysipelatodes*	2	
Ecthyma	3		——— *scabida*	4	
Eczema	5		Ischias	5	
Eneuris	4		Ischuria	2	
Enteritis	8	2	Lepra	1	
Entrodynia	26		Leucorrhœa	17	

DISEASES.	Total.	Fatal.	DISEASES.	Total.	Fatal.
Lithiasis	3		Porrigo *favosa*	2	
Lumbago	4		Profusio	2	
Mania	8		Prolapsus	2	
Melancholia	4		Prurigo *mitis*	3	
Menorrhagia	25		——— *senilis*	6	
Miliaria	2		Psoriasis *guttata*	3	
Morbi *Infantiles**	96	9	——— *gyrata*	3	
Morbi *Biliosi*†	70		——— *inveterata*	6	
Nephralgia	2		Pyrosis	7	
Nephritis	6		Rachitis	2	
Neuralgia	4		Rheumatismus *acutus*	48	
Obstipatio	28		——— *chronicus*	39	
Odontalgia	25		Roseola	4	
Opththalmia	27		Rubeola	29	5
Otalgia	6		Rupia	1	
Palpitatio	7		Scabies	57	
Paracusis	2		Scarlatina *simplex*	11	
Paralysis	15		——— *anginosa*	12	
Paraplegia	1		Scirrhus	2	
Paronychia	5		Scorbutus	1	
Peripneumonia	12		Scrofula	24	
Peritonitis	6		Spasmi	9	
Pertussis	17		Splenitis	3	
Phlegmasia *dolens*	2		Strictura	10	
Phlogosis	10		Strophulus *intertinctus*	4	
Phrenitis	2		Sycosis *capillitii*	3	
Phthisis *Pulmonalis*	38	10	Syncope	1	
Physconia	2		Syphilis	38	
Pityriasis	3		Tabes Mesenterica	6	2
Plethora	7		Vaccinia	72	
Pleuritis	24		Varicella	4	
Pleurodyne	8		Variola	56	12
Pneumonia	33	8	Vermes	30	
Podagra	9		Vertigo	37	
Polypus	2		Urticaria *febrilis*	7	
Pompholyx *benignus*	2		——— *evanida*	2	
Porrigo *larvalis*	7				
——— *decalvans*	2		Total of Cases	2201	
——— *scutulata*	5		Total of Deaths		85

* *Morbi Infantiles* is meant to comprise those Disorders principally arising from dentition or Indigestion, and which may be too trivial to enter under any distinct heads; *Morbi Biliosi*, such Complaints as are popularly termed *bilious*, but cannot be accurately classed.

Corrigenda.—In the two latter columns of the last. *Register* the figures denoting the number of deaths should be placed one line lower.

Observations on Prevailing Diseases.

The Register of the past month presents little worthy of remark.

In the week from the 29th of April to the 6th of May, there appears to have been an extraordinary degree of mortality among persons upwards of fifty years of age; and as the age advances, the proportion above the ordinary hebdomadal returns, increases in a ratio of 2 and 3 to 1.

Typhus still pervades those districts where poverty, want, and squalid wretchedness preserve the fomes of contagion.

Typhus gravior proved fatal to a child only eighteen months old.

Rubeola is very prevalent; several of the cases which have proved fatal were complicated with *Pertussis.*

Variola, at present, far exceeds its usual ravages. One of our Reporters includes *eighteen cases* and *five deaths* in his monthly return. The Bill of Mortality contains for the four weeks, from this disease only, *seventy-four* deaths—the melancholy victims of ignorance and prejudice.

A case has occurred, in our own practice, that shews the necessity of some restriction of the indiscriminate sale of the *oxalic acid*, which is sold in every chandler's shop, under the name of *acid of sugar*. A young man, in a desponding state of mind, bought a sufficient quantity of this salt, with a view of suicide, and dissolved it. Fortunately, the extreme pungency of the solution made him hesitate to swallow it, while it yet was in his mouth. His life was by this preserved; but a most dreadful excoriation of the tongue, gums, and mouth, was the consequence.

A fatal case of *Ascites* began with diseased liver and tympanites, and was accompanied with puerpera, and stupor, several weeks previous to death.

Examinationes post mortem.—1. Upon inspection of the man who died from *Apoplexia sanguinea*, an effusion of blood was found to have taken place on the superior surface of the right hemisphere of the brain, between the pia mater and the substance of the brain.—2. In a case of *Pneumonia* that proved fatal, great adhesions had taken place in both sides of the chest; portions of the lung cut like liver, and sunk in water; and other parts shewed many vomicæ surrounded by vascular parenchyma. The diaphragm was also very much inflamed.—3. A child, of ten months old, who died from *Convulsions*, was examined; but no diseased appearance was found in the head, thorax, or abdomen.—4. One of the cases of *Phthisis* was accompanied by a dropsy of the fallopian tube of the right side. There was also a cyst containing about three pints of transparent fluid between the laminæ of the omentum: this, in point of size, resembled the distended fallopian tube.—5. The case of *Carditis* was of a chronic nature, and accompanied by considerable ossification of the heart. The man, who was 70 years of age, had suffered amputation for a disease of his wrist, about ten days previous to his death.—6. All the arteries of the brain of a woman, aged 65, who died of *Apoplexy*, were considerably ossified, and the whole surface of the cerebellum and cerebrum was covered by blood: extravasation had also taken place into the substance of the brain, and the ventricles were completely distended with serous fluid.—7. *Dysuria* caused the death of a man 60 years of age. He had had scirrhus, and an ulcerated state of the prostate gland, with diseased bladder.

Quarterly Report of Prices of SUBSTANCES *employed in* PHARMACY.

		S.	D.			S.	D.
Acaciæ Gummi elect.	lb.	5	0	Balsamum Tolutanum		20	0
Acidum Citricum		28	0	Benzoinum elect.		12	0
—— Benzoicum	unc.	6	8	Calamina præparata		0	6
—— Sulphuricum	P. lb.	0	9	Calumbæ Radix		3	6
—— Muriaticum		1	8	Cambogia		10	0
—— Nitricum		4	0	Camphora		9	0
—— Aceticum	unc.	3	0	Canellæ Cortex		5	0
Alcohol	M. lb.	3	0	Cardamomi Semina opt.	lb.	10	6
Æther sulphuricus		10	6	Cascarillæ Cortex		3	6
—— rectificatus		14	0	Castoreum	unc.	5	0
Aloes spicatæ extractum	lb.	7	6	Catechu Extractum	lb.	3	6
— vulgaris extractum		5	0	Cetaceum		3	0
Alumen		0	6	Cera alba		3	9
Ammoniæ Murias		2	0	—— flava		3	6
—— Subcarbonas		4	0	Cinchonæ cordifoliæ Cortex (yellow)		6	6
Amygdalæ dulces		4	0	—— lancifoliæ Cortex (quilled)		19	0
Ammoniacum (Gutt.)		12	0	—— oblongifoliæ Cortex (red)		16	0
—— (Lump.)		5	0	Cinnamomi Cortex		17	0
Anthemidis Flores		1	6	Coccus (Coccinella)	unc.	3	6
Antimonii oxydum		7	0	Colocynthidis Pulpa	lb.	20	0
—— sulphuretum		1	0	Copaiba		6	0
Antimonium Tartarizatum		8	0	Colchici Radix		3	6
Arsenici Oxydum		3	6	Croci stigmata	unc.	3	0
Assafœtidæ Gummi-resina	lb.	5	6	Cupri sulphas	lb.	1	2
Aurantii Cortex		4	0	Cuprum ammoniatum		10	6
Argenti Nitras	unc.	6	0	Cuspariæ Cortex		4	0
Balsamum Peruvianum	lb.	30	0	Confectio aromatica		12	0

		S.	D.
Confectio Aurantiorum		3	6
—— Opii		6	6
—— Rosæ caninæ		2	0
—— Rosæ gallicæ		2	0
—— Sennæ		2	0
Emplastrum Lyttæ		7	0
—— Hydrargyri		3	6
Extractum Belladonnæ	unc.	2	0
—— Cinchonæ		3	0
—— Cinchonæ resinosum		5	0
—— Colocynthidis		7	0
—— Colocynthidis comp.		2	2
—— Conii		0	9
—— Elaterii		60	0
—— Gentianæ		0	6
—— Glycyrrhizæ	lb.	5	0
—— Hæmatoxyli	nc.	0	9
—— Humuli		0	9
—— Hyoscami	unc.	1	6
—— Jalapæ - 2s. 6d.	Res.	4	0
—— Opii		3	6
—— Papaveris		1	0
—— Rhæi		2	6
—— Sarsaparillæ		1	6
—— Taraxaci		0	9
Ferri subcarbonas	lb.	4	0
— sulphas		2	0
Ferrum ammoniatum		6	0
—— tartarizatum		8	0
Galbani Gummi-resina.		16	0
Gentianæ Radix elect		1	6
Guaiaci resina		7	6
Hydrargyrum purificatum		6	0
—— præcipitatum album		9	0
—— cum creta		6	6
Hydrargyri Oxymurias	unc.	0	8
—— Submurias		0	9
—— Nitrico-Oxydum		0	8
—— Oxydum Cinereum		1	6
—— Oxydum rubrum		6	0
—— Sulphuretum nigrum		0	4
—— —— rubrum		0	9
Hellebori nigri Radix	lb.	3	6
Ipecacuanhæ Radix		16	0
—— Pulvis		18	0
Jalapæ Radix		6	0
—— Pulvis		6	9
Kino		12	0
Liquor Plumbi subacetatis	M. lb.	1	8
— Ammoniæ		8	6
— Potassæ		1	6
Linimentum Camphoræ comp.		5	6
—— saponis comp.		4	0
Lichen	lb.	1	6
Lyttæ		15	0
Magnesia		12	6
Magnesiæ Carbonas		4	0
—— Sulphas, opt.		0	10
Manna optima		6	0
— communis		3	6
Moschus . pod, (30s.)	in gr. unc.	48	0
Mastiche	lb.	7	0
Myristicæ Nuclei		18	0
Myrrha elect.		8	0
Olibanum		4	6
Opium (Turkey)		29	0
Opium (East India)			
Oleum Amygdalarum	lb.	4	6
— Anisi	unc.	2	9
— Anthemidis		6	6
— Cassiæ		8	0
— Caryophilli		6	6
— Carui		1	6
— Juniperi Ang.		5	0
— Lavandulæ		4	6
— Menthæ piperitæ	unc.	4	0
— Menthæ viridis Ang.		4	6
— Pimentæ	unc.	6	0
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Potassa Fusa	unc.	1	4
— cum Calce		0	6
Potassæ Nitras	lb.	1	6
— Acetas		10	6
— Carbonas		4	6
— Supercarbonas		1	6
— Sulphas		1	4
— Sulphuretum		2	6
— Supersulphas		1	0
— Tartras		4	6
— Supertartras		1	4
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NOTICES TO CORRESPONDENTS.

Communications are received from Dr. Pearson, Mr. Weaver, Mr. Asbury, Mr. Dunn, Mr. Saunders, Mr. Hooper, *and from* J. H. *who we hope will excuse us if we prefix his name to his excellent paper.*—"The History of the Human Œconomy," *by a Member of the Royal College of Physicians, shall have the earliest possible attention.*

Chirurgus *inquires, whether Medical Men are excused by law from serving in the Militia?—We are not lawyers; and no doubt any village attorney would have solved the query: but we have never heard that medical men were exempt from the militia.*

In March last we received a letter from a Dr. Robert Lee, *subscribing himself Physician's Assistant to the Edinburgh Royal Infirmary, stating that a case had been surreptitiously obtained by an individual, whom he named, from his port-folio; and that he understood it was sent for insertion in the* Repository. Dr. L. *farther added, that as it was procured under such circumstances, and as it was contrary to the regulations of the Infirmary to publish any case therein treated, he trusted that the liberality of the* Editors *would induce them to reject it. We answered the letter, denying the receipt of any such communication; and, reprobating the breach of confidence, promised compliance with the request. A day or two afterwards, we were surprised to read, in a contemporary journal, the acknowledgement of the receipt of this very case, with a drawing, and from* Dr. Lee! *We expected that the person who had been accused of robbing the Doctor's case-book, meditated further injury to his fair fame, and had thus abused his name: but in the succeeding number of that Journal, the case actually appeared, with* Dr. Lee's *name and signature attached! To us the circumstance is very unimportant; we merely relate it; leaving to the Doctor, and to those whom it may concern, the full gratification such conduct no doubt affords.*

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CORRIGENDA.

Page 439 In the two latter columns of the Register of Diseases the figures denoting the number of deaths should be placed one line lower.

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